

## Article

# Axes in the Funerary Ceremonies of the Northern Pontic Scythians

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**Abstract:** Axes were rare among the Scythians but are occasionally found in Scythian kurgans. Like other weapons, axes had practical as well as social and religious roles. The Scythians not only placed axes in burials as burial gifts, but also used them at various stages of the funeral ritual. This article considers several hitherto unknown, highly unusual archaeological contexts featuring axes. These contexts show that axes were used in the ritual preceding the excavation of the grave; they completed the ritual before the filling of the grave; and they were included in the final sealing of the burial. In addition to the ritual implications of Scythian axes found in kurgan burials, this article considers the meaning of the representations of related artifacts on Scythian metalwork, as well as on the coins of Kerkinitis and Olbia. A bronze votive axe similar to the one from L'vovo Kurgan 18, Burial 2 is shown on Olbian Borysthene coins, indicating a permanent relationship between the city and the Scythians, perhaps in the form of paying tribute ("gifts") to the Scythians. The dating of Olbian Borysthene coinage is also discussed.

**Keywords:** Scythians; weapons; axes; funerary rites; votives; coins; Olbia; protectorate



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## 1. Introduction

A major feature of any Scythian burial ceremony is the repertoire of distinctive ritualistic actions performed during the preparation of the burial place at the different stages of the interment of the deceased and during the subsequent memorial service. These actions were carried out using various weapons and household items. Some of these objects stand out in the archaeological record due to their unusual placement in the burial or their presence in some specific manner in the soil below or near a kurgan. The systematization of such archaeological depositions and the examination of the semantic status of the different categories of objects found in them are some of the main goals of archaeological research.

Among the best-known discoveries of this kind are the bridles and metal attachments of funeral carts found near the heaps of subsoil brought to the surface during the construction of the subterranean tomb, which was later covered by the tumulus (Bidzilya and Polin 2012, pp. 285–93), and horse burials in the entrance pits or dromoi of the catacombs and in niches in the walls of the entrance pits (Daragan and Polin 2020), as well as objects put in caches (Bidzilya and Polin 2012, pp. 101–5, footnote 46).<sup>1</sup> One particular type of object in this category is axes.

During Scythian times, axes were used in rituals as well as in battle. Even though the use of battle axes as weapons was relatively rare and axes are seldom found in kurgans, they apparently played an important role in social and religious practices (Nikonov 2015, p. 396). Herodotus directly mentions this in his retelling of a Scythian genealogical legend, where the Scythians received (among other sacred items) a gold double-sided axe from the sky gods. Possession of these gifts legitimized the royal prerogatives of Colaxais, the youngest of the mythical ancestor-brothers. The Scythian rulers cherished this sacred gold and made sacrifices in its honor every year (Herodotus IV. 5. 3 and IV 7. 1). A double-sided

axe was, according to Herodotus, also indispensable when making sworn agreements: a sword, arrows, a dart, and an axe were dipped into a cup of wine mixed with the blood of the participants in the agreement.<sup>2</sup> After this procedure, the wine was drunk by the participants and witnesses of the ritual (Herodotus 4. 70) to seal the agreement in the most secure way, making it sacred and inviolable. The sacred functions of the sky gifts were seemingly transferred to the oath.

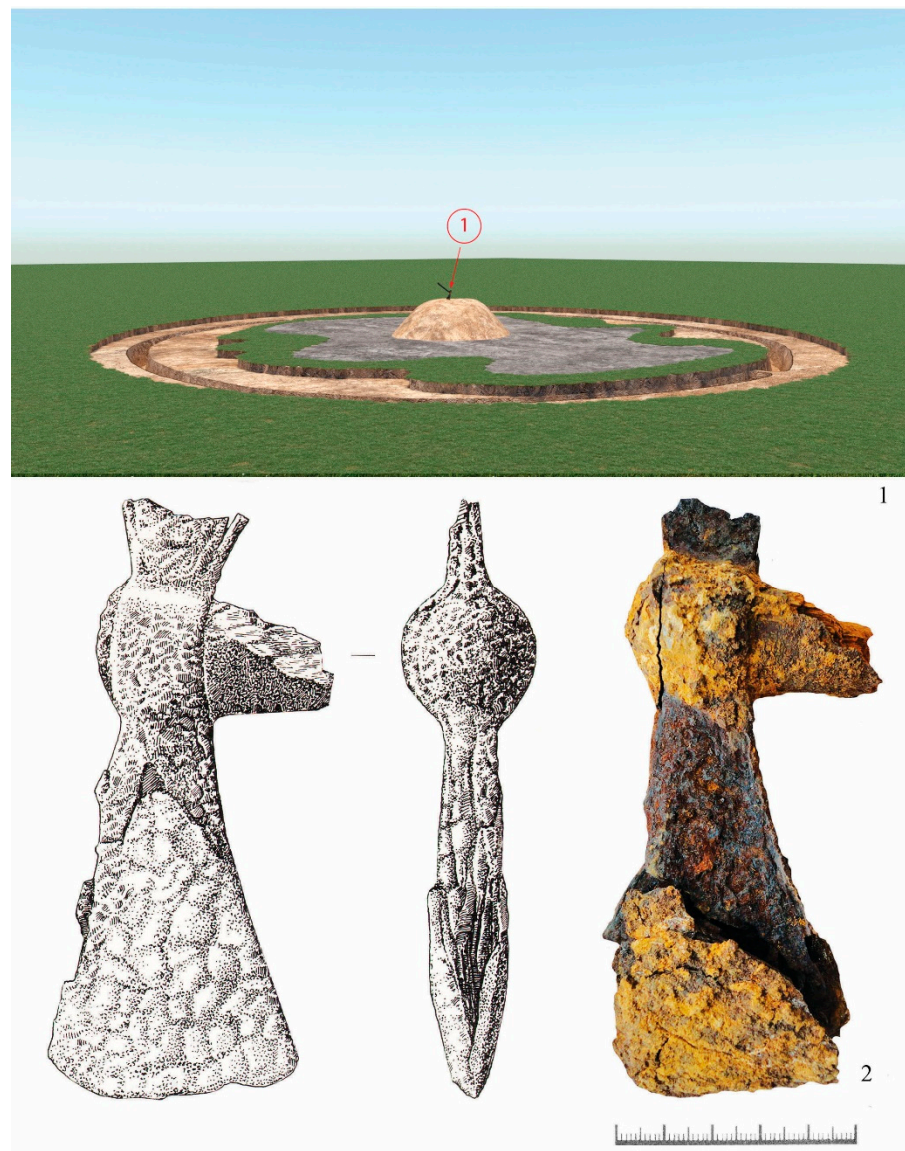
It is known that the Scythians of the northern Pontic region had iron battle and work axes; bronze, iron, and bi-metallic klevetses; and bronze ritual hatchets, all of which occasionally accompanied buried people to the afterlife. In previous scholarship, Scythian axes have mostly been researched from typological and symbolic points of view (İllins'ka 1961; Melyukova 1964, pp. 65–68; Perevodchikova 1979; Kisel 2008; Nikonorov 2015).

While we were preparing the materials from the burial mound of Vodoslavka in the North Sivash region for publication and carrying out comparative studies of the materials from other burial grounds of steppe Scythia, it became clear to us that the Scythians not only put axes in burials as a part of the set accompanying the deceased, but also used axes at different stages of the burial ritual. This article is dedicated to the description and analysis of such previously unknown and quite extraordinary archeological situations involving axes.

## 2. Vodoslavka Kurgan 1, Burials 1–3<sup>3</sup>

Kurgan 1 is one of the largest kurgans on this burial ground. At the time of excavation, its height was 2.6 m and its diameter, 50 m. The kurgan had been ploughed over for many years. To judge from the diameter of the ditch (44 m), the kurgan was as tall as 5 m in ancient times. These dimensions are quite impressive for the Azov Sea region, where even the kurgans of the Scythian nobility were comparatively small.<sup>4</sup> The size, as well as the complexity of the burial ritual and level of expenditure signaled by the finds, suggests that this kurgan belonged to members of the lower-level Scythian nobility (Daragan and Polin 2022). The single preserved catacomb beneath the tumulus is accessed through two entrance pits made at different times. In the initial construction of the kurgan (Burial 1), the vertical shaft of the catacomb was encircled by an earth mound formed of upcast subsoil. This earth mound measures 9.3 m in diameter, 3.0–5.6 m in width, and up to 0.7 m in height. After the initial burial process was finished, the entrance to the dromos was covered with a clapboard shield. The entrance pit and the funnel-shaped opening at the top of the mound of upcast soil were then covered with large slabs of chernozem turf. On top of this turf, a layer of clean loess was placed—up to 0.7 m thick. As a result, a hemispherical construction of chernozem and loess, 1.7 m tall and about 9 m in diameter, appeared on top of the entrance pit of Burial 1.

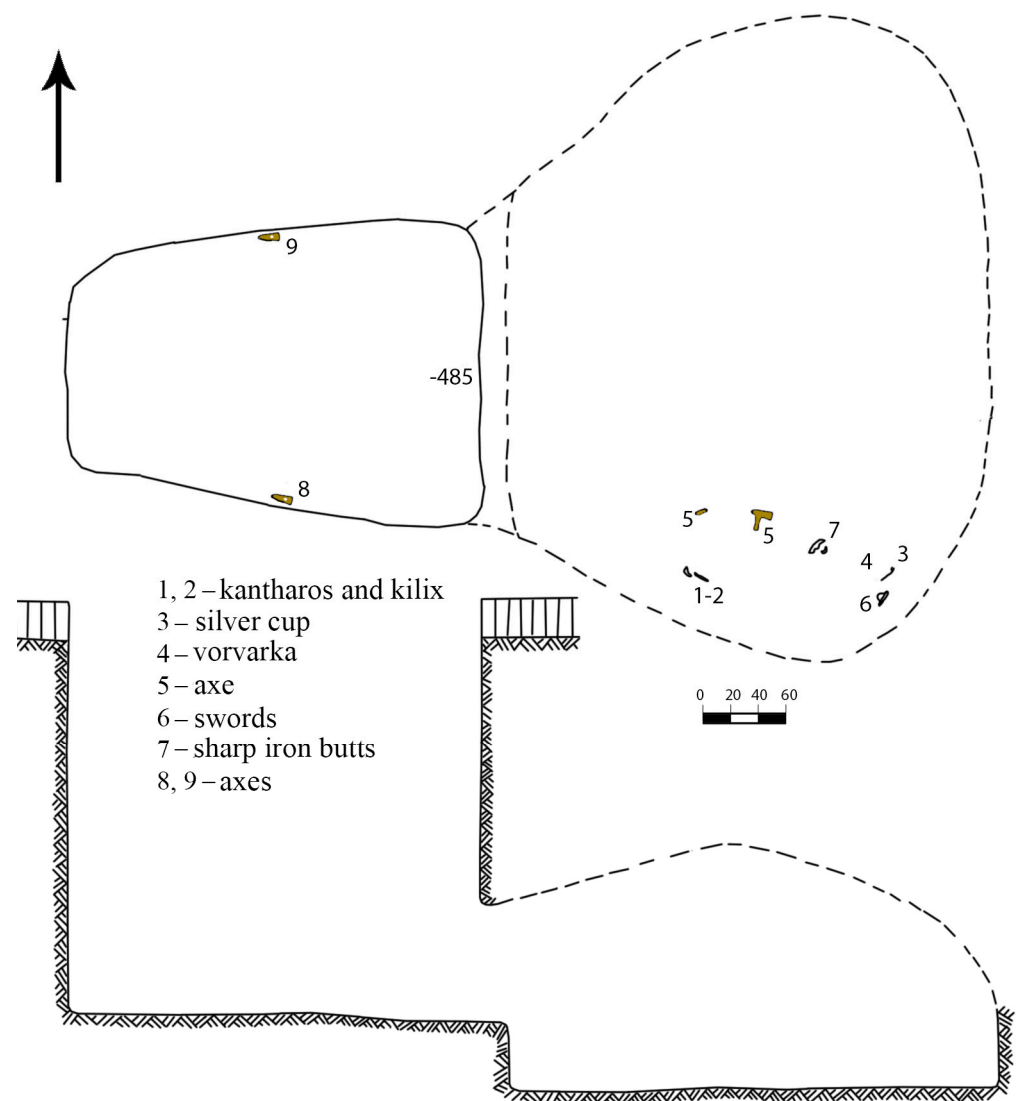
After the construction of the hemisphere was finished, a ritual of unknown nature was performed that involved an iron axe being driven through the top of the construction, directly above the entrance pit, with the handle pointing west (see Figure 1; for a description of the axe, see Table 1: no. 1). The excavation of the catacomb revealed the remains of three skeletons: two males of adult and mature age and one female of mature age.<sup>5</sup> Despite the disturbance, stratigraphic analysis allowed for the reconstruction of the sequence in which the individuals were interred. Critical evidence for the phasing comes from the horse burials in the second entrance pit belonging to Burial 2 (Daragan and Polin 2020; Table 1: no. 1). Since the horses must be associated with the remains of one of the male inhumations, it is clear that the initial Burial 1 was of a woman of mature age who belonged to the local nobility, as is indicated by the elaborate nature of the objects that accompanied her and the complexity of the burial ritual. The second male (of adult age) apparently accompanied one of the individuals buried as a married couple.



**Figure 1.** Vodoslavka Kurgan 1: (1) An axe hammered into the subsoil fill. Reconstruction: M. Daragan. Image: Aleksandr Menchinskyi; (2) An axe from Vodoslavka. Photograph: M. Daragan.

### 3. Novomihailovka Kurgan 5, Burial 1<sup>6</sup>

This ploughed-over kurgan, 1.4 m tall, had a diameter of 26 m at the time of excavation. The main burial of the kurgan—Burial 1—was at the center. It was categorized as a Type III catacomb, according to Grakov's typology (Grakov 1962). The entrance pit, trapezoid-shaped in cross-section, with dimensions measuring  $3.2 \times 1.6$ – $2.4$  m, was oriented east–west. The bottom reached a maximal depth of 2.85–3.0 m from the original surface. On the floor of the entrance pit, two axes were placed opposite each other in the middle at the base of the lateral walls (see Figure 2, Table 1: 4–5, and 1-a and 1-b in the description of the finds from the kurgan in the section below).



**Figure 2.** Novomikhaylovka Kurgan 5, Burial 1: General plan and sections (image from the report).

The entrance to the chamber was cut into the wall of the pit, and it descended into the chamber with a 0.5 m high step. The chamber, oval in cross-section and with dimensions of  $4.5 \times 3.3$  m, was oriented north–south; that is, perpendicular to the entrance pit. The bottom was at a depth of 3.6 m from the ancient surface. While the vault of the chamber had collapsed, its estimated height does not appear to have exceeded 1.8 m (Figure 2). The contents of the burial were heavily damaged during looting operations that took place in antiquity. The fill yielded fragments of bones from two skeletons (one male, the other female), arrowheads (see 2 in the description of finds below), a vorvarka (a conical object with a pierced hole) (3), beads (4), fragments of two swords (5), and sharp iron butts (weights fitted onto the bottom end of spear shafts for balance, or attachments for the handles of spears and javelins) (6). On the floor of the chamber, the following objects were lying in different places: bridles with cheekpieces (7), one more axe (1-c), two black slip kantharoi (8,9), a silver vessel with a golden handle (10), a spindle whorl (11), pieces of graphite (12), knives (13), and fragments of bronze and iron objects (14–16).

#### List of Finds

1-a. Iron axe. For a description, see Table 1: no. 4 (Figure 3: 1).

1-b. Iron axe. For a description, see Table 1: no. 5 (Figure 3: 2, 3).





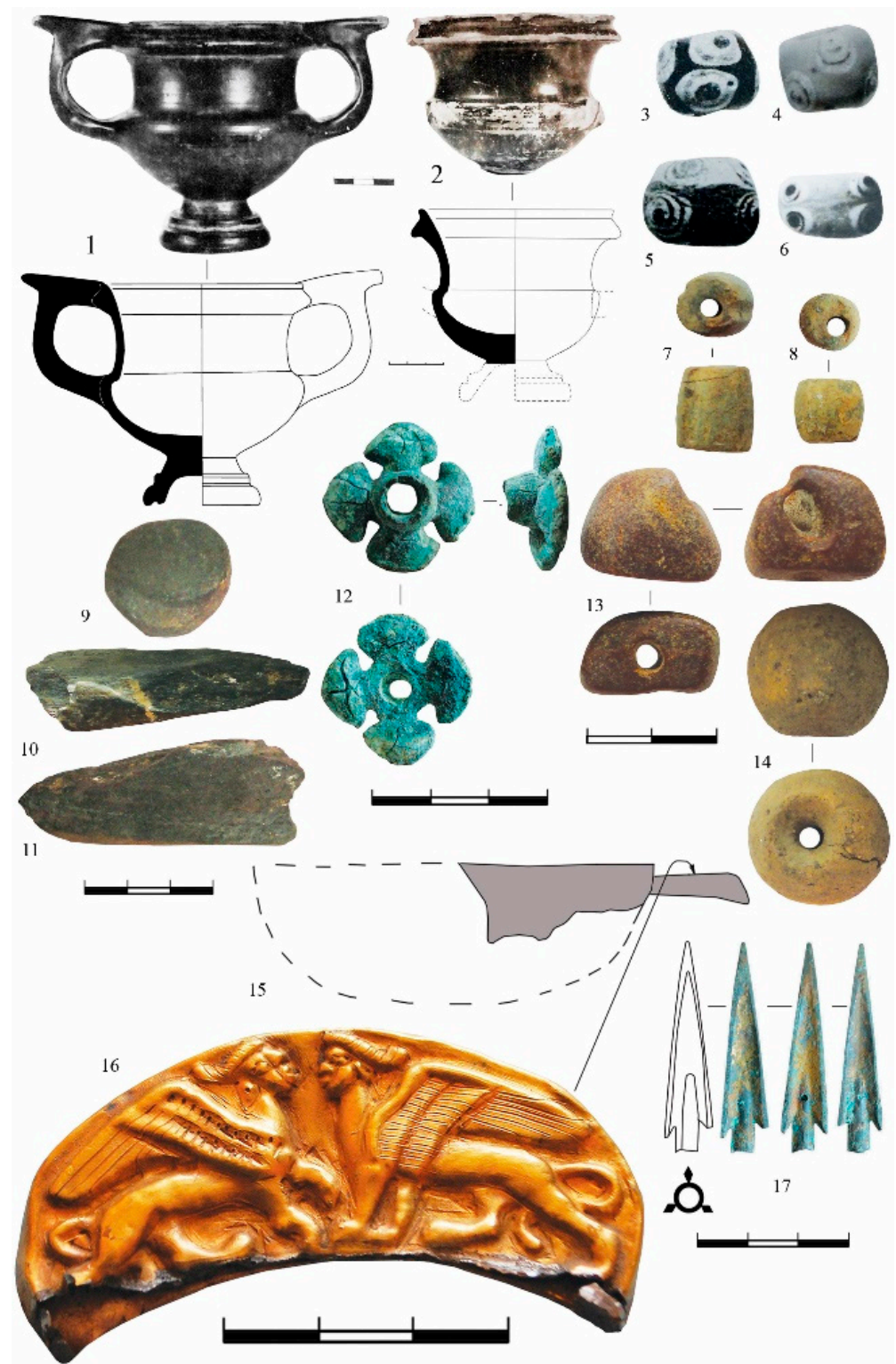
**Figure 3.** Novomikhaylovka Kurgan 5, Burial 1: (1) and (2) Axes from the entrance pit of the catacomb; (3) Wedge in an axe handle; (4)–(7) Butts (weights fitted onto a shaft for balance) from spears and javelins. Photographs and reconstruction: M. Daragan.

1-c. Iron axe with a spike at the base of the handle. For a description, see Table 1: no. 6 (Figure 4).



**Figure 4.** Novomikhaylovka Kurgan 5, Burial 1: (1)–(4) An axe from the chamber of the catacomb; (5) Reconstruction of the axe from the chamber of the catacomb. Photograph and reconstruction: M. Daragan; (6) Coin of Kerkinitis, 300–290 BC ([Nikonov 2015](#), Figure 5: 13; [Anohin 1989](#), nos. 413–17, pls. XXIV: 4132–416; XXV: 417).

2. Two trilobate socketed bronze arrowheads. One arrowhead was intact; only half of the other remains. Length: 4.0 cm (Figure 5: 17). Type 2 from the typology of arrowheads of the 2nd to 3rd quarter of the 4th century BC ([Daragan 2020](#); from Table 1).



**Figure 5.** Novomikhaylovka Kurgan 5, Burial 1: Finds from Burial 1. (1)–(2)—after [Polin \(2014\)](#); (3)–(6)—Photographs from the report; (7)–(17)—Photographs and reconstruction: M. Daragan.

3. Bronze vorvarka (a conical pendant with a piercing for fixing knots) with a protruding cylindrical sleeve in the middle and four expanding flat, segmented blades in the shape of a cross. Diameter, 2.5 cm; sleeve height, 0.5 cm (Figure 5: 12). This type of vorvarka was used in the 2nd to 3rd quarter of the 4th century BC ([Polin and Daragan 2019b](#), p. 165).



4. Glass beads, which are no longer extant and are only known through their description and the photograph in the excavation report. Among them (Figure 5: 3–6) are a yellow cylindrical bead with white and brown “eyes” (diameter, 1.5 cm; height, 1 cm); a dark-blue cylindrical bead with white, brown, and dark-blue “eyes” (diameter, 1.5 cm; height, 1 cm); a green cylindrical bead with white, brown, and dark-blue “eyes” and a white band at the bottom (diameter, 1.8 cm; height, 1.5 cm); a yellow cylindrical bead with white and dark-blue “eyes” (diameter, 1.7 cm; height, 1 cm). There was also a fragment of a cylindrical bone bead (also not preserved), two brown barrel-shaped stone (pyrite) beads (0.8 cm in diameter; 1.2 and 0.9 cm in height; Figure 5: 7, 8), and an irregularly shaped amber bead. The latter was made from a piece of amber with a natural hole that passed through the bead horizontally (Figure 5: 13).

5. Fragments of two iron swords:

- Two fragments of a sword with a one-sided blade, wedge-shaped in cross-section, with traces of a wooden sheath on the surface. Length of the fragments: 14.5 and 10 cm (Figure 6: 1).
- The lower part of a double-edged sword with a triangular blade, lens-shaped in cross-section, with a broken off tip. Traces of a wooden sheath survive on its surface. Remaining length: 20 cm; width: 2.4 cm (Figure 6: 2).

6. Four sharp iron butts (i.e., weights fitted onto the spear shaft for balance or attachments for the handles of spears and darts): two cylindrical ones; one conical one, expanding upward, with a blunt base; and one biconical one with a narrower middle section and a dull base. Traces of wood are preserved inside the butts. Length: 9, 11, 12, 5, and 14 cm (Figure 3: 4–7).

7. Fragments of a two-piece iron bit with a straight cheekpiece with two holes and nail-shaped heads at the tips. The cheekpiece was inserted through the loops at the ends of the bit. An iron ring for a rein, 3 cm in diameter, was attached through the same loop. The length of the cheekpiece was 13.5 cm, the ring diameter, 4 cm, and the length of one link of the bit chain, 11 cm (Figure 6: 4, 6, 8).

8. Black-glazed Attic kantharos with a molded rim. The slip coating is high quality and glossy in appearance. There is no stamped decoration on the interior. The diameter of the rim is 11 cm; the height of the vessel, 10 cm (Figure 5: 1).

9. A large fragment of a black-glazed Attic kantharos of regular proportions with the same type of rim and fine slip as item no. 8. The interior tondo of the cup is decorated with a stamped rosette. The diameter of the rim is 10 cm; its height, 6 cm (Figure 5: 2).

10. A semi-spherical silver cup, heavily damaged when the tomb was looted, with one flat, horizontal handle with a gold sheet overlay (Figure 5: 15). The corroded overlay is constructed of two pieces—a smooth lower one and an ornamented upper one—joined over a narrow strip along the edge. A stamped relief with two fighting sphinxes appears on the upper side. In the relief image, the lines of the wing feathers and the notches on the headdresses are incised or engraved with a sharp tool. The diameter of the cup is about 10 cm; the dimensions of the gold overlay on the handle are 7 × 2.7 cm (Figure 5: 15, 16).

11. A spherical spindle whorl with a funnel-like notch on one side of the piercing and a flat surface on the other side. Diameter, 3 cm; height, 2.7 cm (Figure 5: 14).

12. Trimmed and filed pieces of graphite slate, two flattened and one rounded. Dimensions: 2.9–6.3 × 1.7–2.0 cm (Figure 5: 9–11).

13. Fragments of two iron knives:

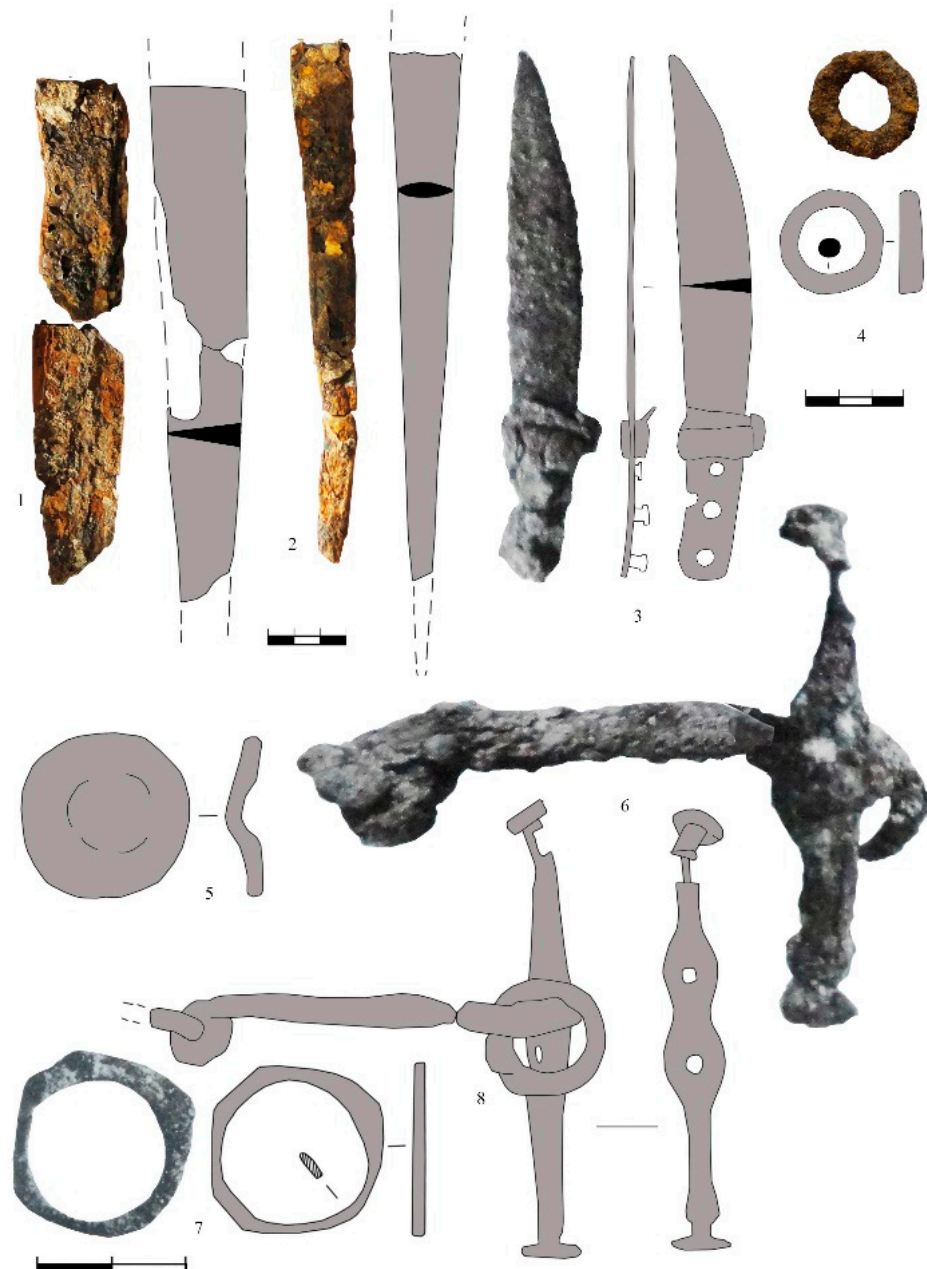
- A knife with two rivets and traces of wood from the handle still attached to it. Remaining length, 3.5 cm; width, 1.8 cm.
- A humpback knife with a straight blade and a large rectangular shaft. A bone handle (now lost) had been attached to the shaft with three rivets covered with a strip of iron at the bolster. The length of the blade is 9.5 cm; the width, 1.8 cm; and the length of the shaft, 3 cm (Figure 6: 3).



14. A bronze ring of unknown purpose. The width is variable and the cross-section is flat and of uneven thickness. Diameter, 2.5 cm (Figure 6: 7).

15. An iron umbo-shaped object, with traces of wood on the reverse. Diameter, 3 cm (Figure 6: 5). This plaque could have covered the opening from which the wooden handle of the axe from the chamber protruded.

16. Fragments of iron hooks, now lost. Large iron hooks of this type were used in burials to suspend the deceased's personal belongings from the walls of the chamber (Polin 2014, pp. 124–27, Figure 71).



**Figure 6.** Novomikhaylovka Kurgan 5, Burial 1: (1), Finds from Burial 1. (2)–(4)—Photographs and reconstruction: M. Daragan; (3)–(8)—Photographs from the report.

#### 4. L'vovo Kurgan 11, Burials 5–6<sup>7</sup>

Inserted into a 2.3 m high, ploughed-over Scythian kurgan, Burials 5–6 consisted of a long catacomb, oriented east–west, which was accessed by two entrance pits made at different times. The square entrance pit (no. 1, eastern) with dimensions of 1.6 × 1.6 m and

a depth of 4.0 m, led to the catacomb via two steps through an entrance in the western wall. The first burial in this catacomb was made through entrance pit no. 1, and the looting of the burials was also carried out through this pit.

The rectangular entrance pit (no. 2), with dimensions of  $1.3 \times 1.1$  m, had a step along the western wall at a depth of 3.4 m. The fill of the pit was reinforced with unworked stones. The bottom, at a depth of 4.5–4.7 m, descended diagonally to the entrance of the catacomb in the eastern wall. The entrance was covered with a layer of flat limestone rocks, placed horizontally. The height of the entrance was 0.9 m; the width, 1–1.2 m. After some time, an additional burial was inserted into the tomb through entrance pit no. 2.

The rectangular catacomb had dimensions of  $3.4 \times 1.8$  m. The bottom was at a depth of 5 m. The central part of the chamber yielded the remains of a wooden coffin consisting of thin (2 cm thick) longitudinal boards and short transverse boards (14 cm wide) positioned 4–5 cm apart. Near the south-eastern corner, the coffin contained two pointed attachments for spear handles (1). Between the coffin and the northern wall, the shin and foot of the left leg of the buried man were found, and in the western half of the chamber, several arrowheads were found (2).

In the north-eastern corner of the chamber, a small niche (1.0 m long and 0.6 m deep) was cut into the wall, with the bottom of the niche being 0.2 m higher than the bottom of the chamber. The burial had been robbed in antiquity, but the niche remained intact. Found inside the niche were a bronze cup (3) with a bracelet (4) and an arrowhead (5) inside it, an amphora (6), a spearhead (7), two dart heads (8), an axe (9), and animal bones from a food offering.

Burial 5 in the same catacomb (also robbed in antiquity) was covered with a thin layer of chernozem soil (7–10 cm thick), which was in turn covered with a thin layer of bark. A buried man was lying stretched out on his back, with his head pointing west. The skull and thorax had been destroyed by robbers. To the north of the remaining leg bones, a bone from a large animal and a piece of an iron knife were found, and near the left half of the thorax, a vorvarka.

#### *Descriptions of the Objects*

1. Two cylindrical iron attachments for spear handles. Length, 16.0 cm and 12.5 cm; diameter, 1.8 cm for both objects (Figure 7: 1, 2).

2. Four bronze socketed arrowheads: two, three-bladed and two, trilobate, with hidden sleeves. Length, 3.0–3.5 cm (Figure 7: 3–6).

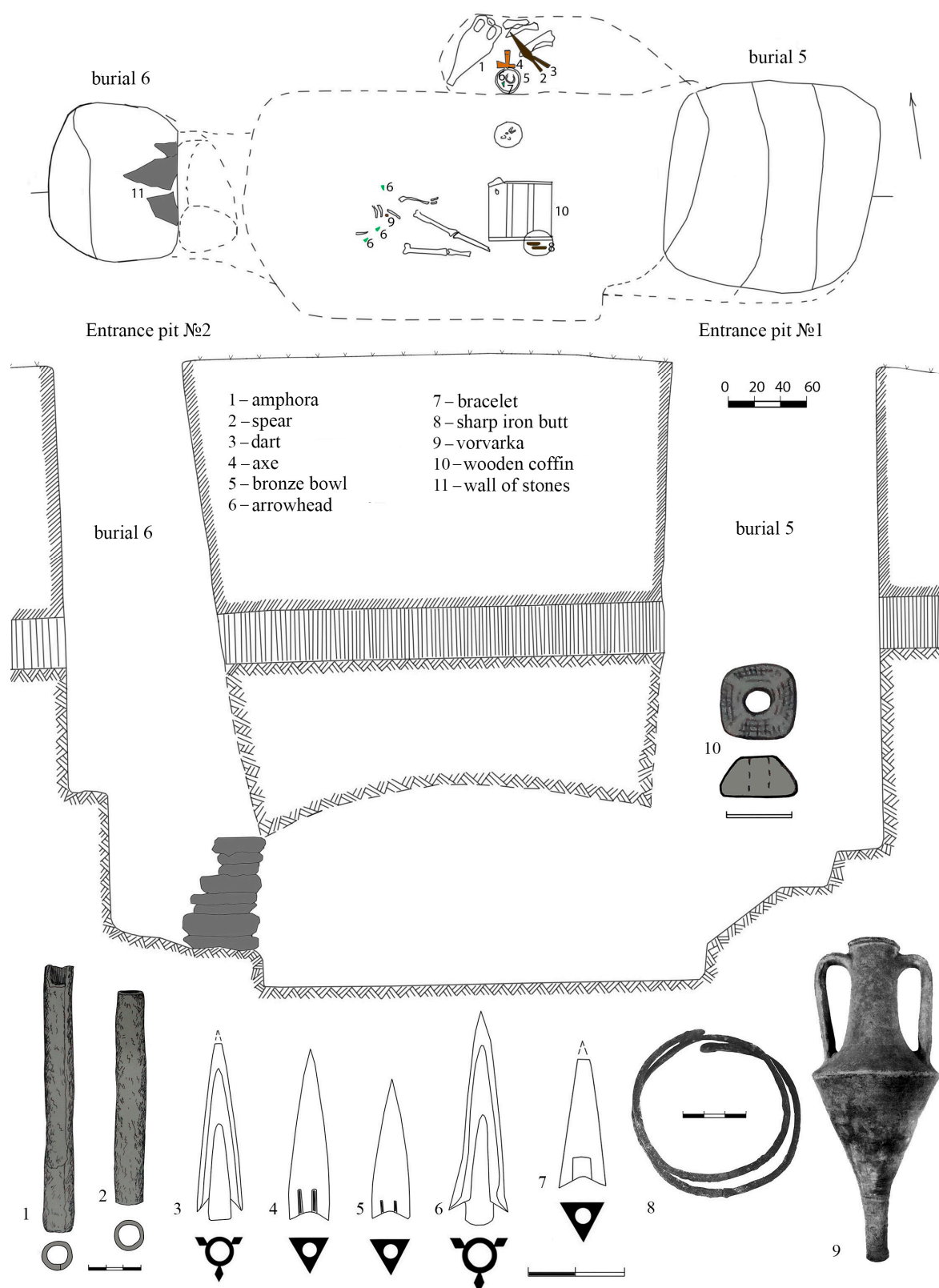
3. A bronze cup with slightly convex sides. The base is decorated with a pattern of semi-ovals. Diameter, 20 cm; diameter of the base, 15 cm; height, 7 cm. The cup had previously broken into small pieces. Another cup of identical shape and dimensions, and with the same decoration at the base, was found in Burial 2 of the same kurgan, providing insight into the original appearance of this one (Terenozhkin et al. 1973a, p. 65; Fialko et al. 2018, p. 112).<sup>8</sup>

4. A spiral bronze wire bracelet with two coils. One end is sharpened, the other has a snake-shaped finial. Diameter, 8 cm; diameter of the cross-section, 0.5 cm (Figure 7: 8). The piece belongs to Type IX of Scythian bracelets, according to V.G. Petrenko's classification. It is a rare type that first appeared in the 5th century and was used during the 4th century BC (Petrenko 1978, p. 55).

5. A triangular-shaped bronze arrowhead with a hidden midrib and with a small  $\Pi$ -shaped socket at its base. Length, 3 cm (Figure 7: 7).

6. Heracleian biconical amphora (now lost) of Type II-A-2, III-2, or III-3, according to Monahov's classification, dating from the 380s to the end of the 4th century BC (Monahov 2003, pp. 136–38, 141–42, pl. 96: 5–7; 98; 99; 2016, pp. 357–70; Polin and Alekseev 2018, pp. 348–49). A type of amphora similar to the one found in Burials 5–6 is shown in Figure 7: 9.

7. An iron arrowhead in the form of a sharpened leaf with a long narrow blade, a conical sleeve, and a rhombic cross-section. Length 48 cm; length of the blade, 34 cm; width of the blade at its base, 3.5 cm; diameter of the sleeve, 2.5–3.5 cm (Figure 8: 6).



**Figure 7.** L'vovo Kurgan 11, Burials 5–6: General plan and sections of Burials 5–6 and their finds. (1), (2), and (8) Photographs from the report; (3)–(7) and (10) M. Daragan.

8. Triangular dart heads with expanding stingers, a long conical rod, and a conical sleeve with a clutch along its base. Length, 49 and 45 cm; diameter of the sleeves at the base, 3 and 4 cm (Figure 8: 4, 5).

9. An iron axe. For a description, see Table 1: no. 2 (Figure 8: 1, 2).

10. A truncated conical vorvarka with a central piercing and a square base. Dimensions,  $1.2 \times 1.2$  cm; height, 0.6 cm; diameter of the hole, 0.4 cm (Figure 7: 10).

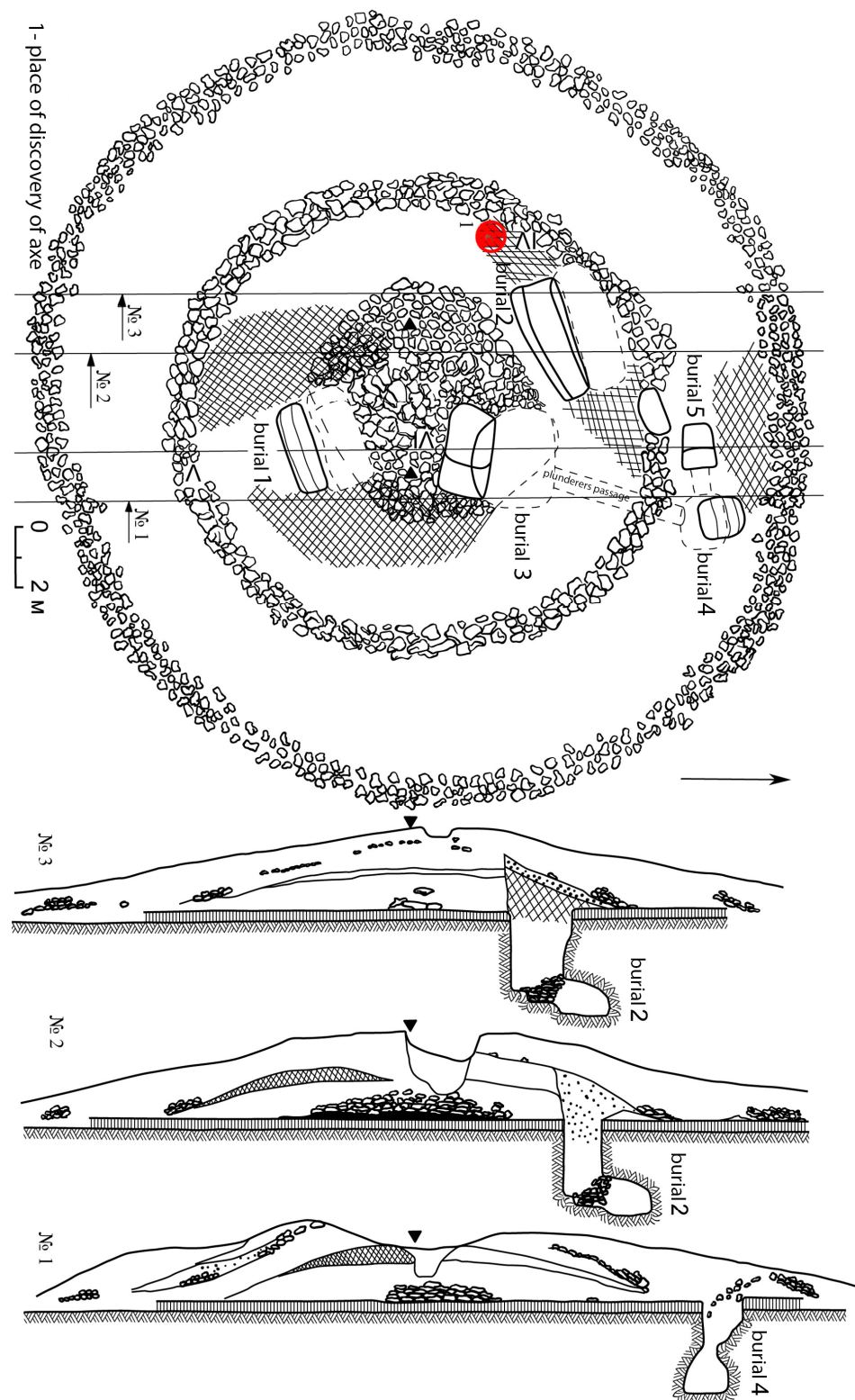


**Figure 8.** L'vovo, Kurgan 11, Burials 5–6: Finds from Burials 5–6. (1), (2)–(5) Photographs from the report; (1a) M. Daragan.

##### 5. L'vovo Kurgan 18, Burial 2<sup>9</sup>

Burial 2 was the second one added to this Scythian-period kurgan. With a preserved height of 3 m and diameter of 28 m, the burial most likely belonged to members of the Scythian nobility. After Burial 2 was made, the original kurgan was raised by 2.5 m and reinforced along the base with a stone krepis measuring 17 m in diameter. The surface of the new kurgan was covered with a layer of unworked limestone rocks (Figure 9).





**Figure 9.** L'vovo Kurgan 18: General plan and sections of the kurgan (after: [Kubyshev et al. 1982](#)).

Burial 2 was made in a vault cut into the north wall of the vertical pit, forming a deep undercut. At a distance of 2.5 m to the south-west of the entrance pit of Burial 2, under the upcast subsoil fill from the catacomb, a small bronze votive axe was deposited (Figure 10). This axe was formed using the lost-wax casting technique. The thin blade, converging at a point that is wedge-shaped in cross-section, ends in a wide semi-circular bit with an upturned toe and a scalloped beard. The central point at the beard might be the remainder

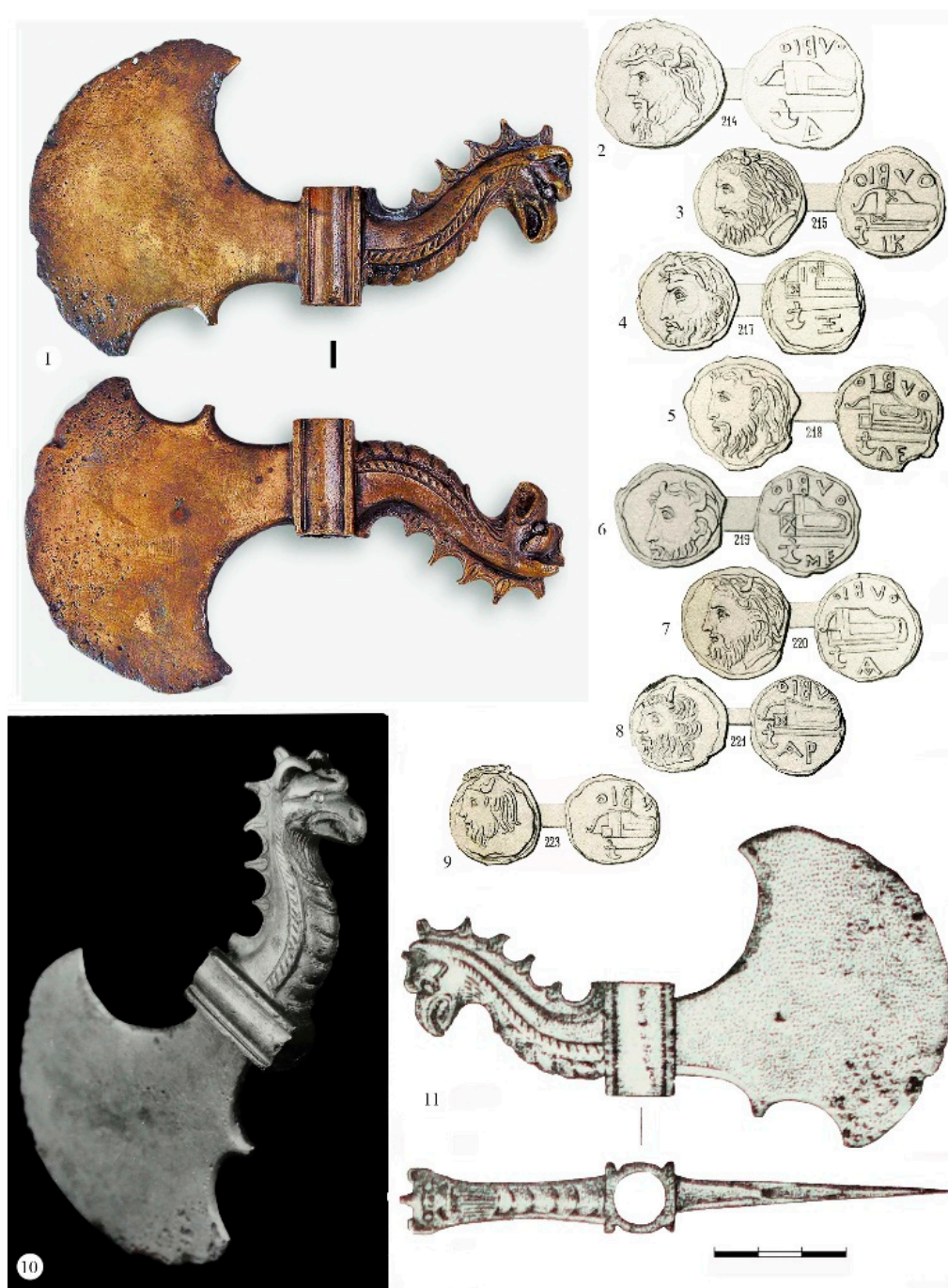
of a casting sprue filed into shape. The tall cylindrical eye of the axe has a conical hole expanding toward the top and is decorated with four faceted protrusions along the edges. The small poll ends in a griffin protome with a long, curved neck. The creature's ears are pricked up and bent forward, and a spiked crest runs from the forehead along the top of the spine. The crest and the front of the neck feature lines chased into the surface of the bronze to suggest anatomical detail. The prominent eagle beak of the griffin has characteristic bird nostrils and is tightly shut. The deep-seated eyes are made from small balls of electrum that had been soldered to the head. The entire front of the neck is covered in wide transverse scales, bordered on the sides with parallel stripes of diagonal cutting. The length of the axe is 12.4 cm; the length of the blade is 6.3 cm; the width, 7.3 cm; the height of the eye of the axe, 2.6 cm; and the diameter of the hole is  $1.2 \times 1.7$  cm at the top and  $1.1 \times 1.2$  cm at the bottom (Figure 11: 1; Table 1: no. 3).



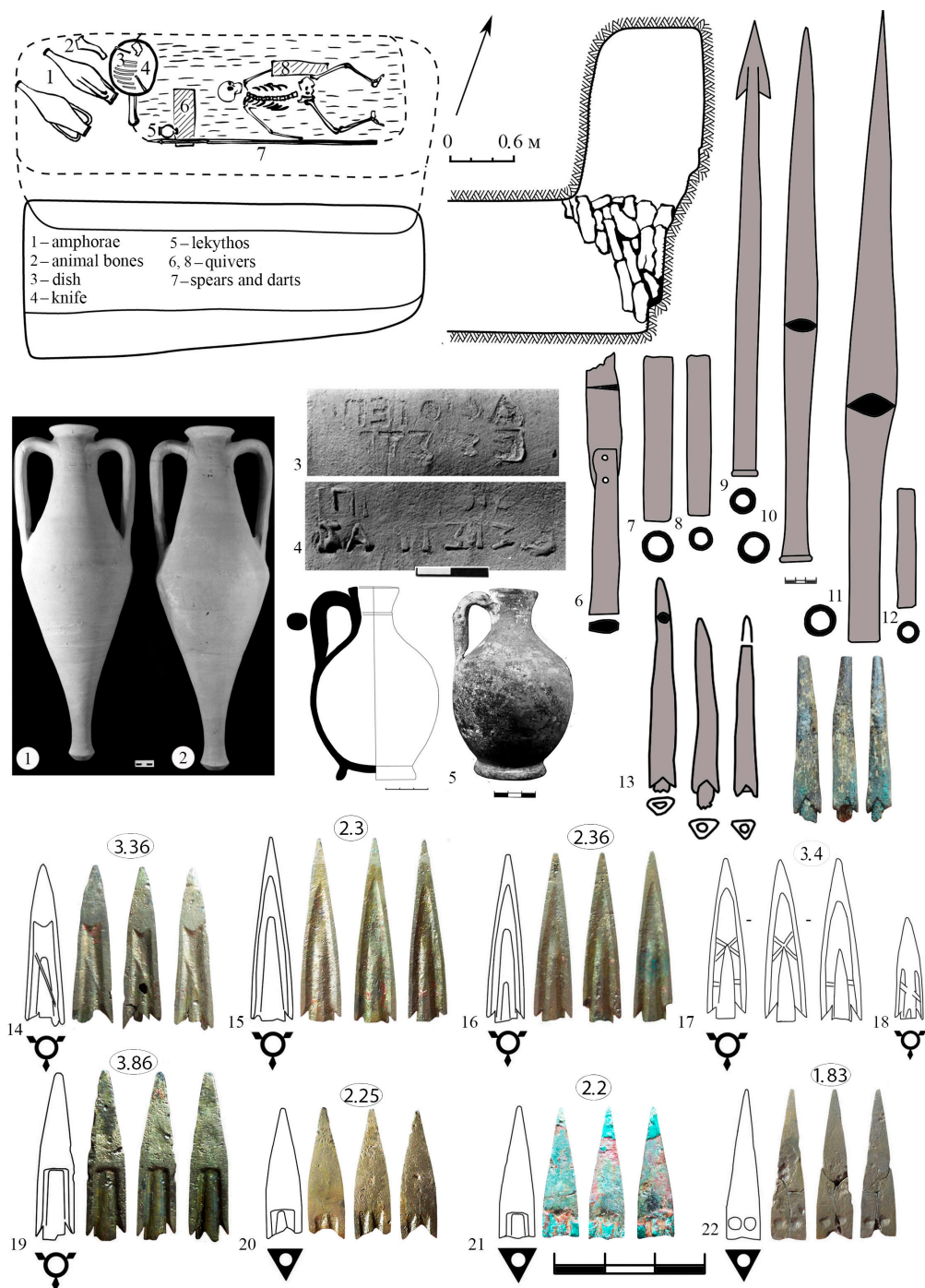
**Figure 10.** L'vovo Kurgan 18, Burial 2. Location of Burial 2 and the votive axe from under the subsoil fill from Burial 2. Reconstruction: Aleksandr Menchinskyi.

The entrance pit, measuring  $4.2 \times 1.5$  m, is oriented north-east-east-south-west-west. At a depth of 2.7 m, the bottom descends obliquely in ledges from the original floor to the entrance of the niche at a depth of 3.2 m in the north-western wall. The entrance to the niche was covered with a screen of horizontally positioned limestone slabs measuring up to 0.7 m in cross-section. In the rectangular undercut along the northern wall (with dimensions of  $4.45 \times 1.7$  m), a skeleton of a man was lying supine on a wooden platform with dimensions of  $2.9 \times 1.15$  m. The man was 30–40 years old according to Krutz's definition. The arms were outstretched, and the legs, which were bent at the knee, formed a rhombus. It is possible that the knees were originally propped up vertically. Behind the head, in the north-western corner of the niche, were two Heracleian amphorae in a pseudo-Thasian style with stamped handles (Figure 12: 1–4). Above the head, on the edge of the wooden platform, was a wooden plate held together with iron braces, with the animal bones of a food offering and an iron knife with a bone handle (Figure 12: 6). The same area of the platform also yielded a quiver made of tree bark containing 3 wooden and 48 bronze arrowheads (Figure 12: 13–18), as well as a gray ceramic lekythos. On the left side of the platform were two spears and a 2.3–2.4 m long dart. On the elbow bone of the left arm rested a second quiver (of similar construction to the first one) which contained 84 bronze arrowheads (Figure 12: 19–22).<sup>10</sup>





**Figure 11.** L'vovo Kurgan 18, Burial 2: The votive axe excavated under the subsoil fill from Burial 2. (1) Photograph: M. Daragan; (2)–(9) Olbian Borysthenes bronze coins (after [Burachkov 1884](#), pp. 43–45, pl. IX:214–23); (10) and (11) after Kubyshev, Nikolova, and Polin ([Kubyshev et al. 1982](#), Figures 10 and 11).



**Figure 12.** L'vovo Kurgan 18, Burial 2: Finds from Burial 2. (1)–(5) after Polin (2014, Figure 218); (6)–(13) after Kubyshev, Nikolova and Polin (Kubyshev et al. 1982, Figure 13); (14)–(22) M. Daragan.

## 6. Discussion

### *The Types of Axes*

In the study of Scythian weaponry, the term “axes” is used to describe a group of tools for chopping and cutting made of iron or bronze, or a combination of the two. In addition to axes and poleaxes (further subdivided into battle and working axes), this group includes klevetses (used exclusively for battle) and small bronze decorative axes (Illins’ka 1961, p. 29; Melyukova 1964, p. 65; Shramko 1969, p. 56; Kisel 2008; Shelehan 2012, pp. 3–13; Nikonorov 2015; Telnov et al. 2016, pp. 781–82). Axes are classified based on the diverse relationships between the form and size of the hacking or hitting part and the poll, as well



as the placement and the size of the eye, according to the suggested typologies (compare the ones proposed by [İllins'ka 1961](#); [Melyukova 1964](#); [Shelehan 2012](#)).

Axes constitute a characteristic category of burial items in warrior burials from the Scythian archaic period in the Ukrainian forest-steppe, the North Caucasus, and the Carpathian region near the Danube, while finds of axes are quite rare in the burials of steppe Scythia dating from the 2nd or 3rd quarter of the 5th century to the 4th century BC.<sup>11</sup> A reliable connection between axes and men's burials has been established ([Bunyatyán 1985](#), pp. 67, 69).<sup>12</sup>

Over the last few decades, the number of relevant finds has grown significantly. Ilinskaya knew of 48 battle and working axes, only 9 of which were found in steppe Scythia, as well as 11 bronze votive axes, which were also found mainly in the forest-steppe region ([İllins'ka 1961](#), pp. 43–44, 51, Figure 11; 13:1). Melyukova had the same information about axes, but excluded from consideration the small bronze axes, which, in her opinion, were not weapons ([Melyukova 1964](#), pp. 65–68). According to Sinika's data, 46 axes were found in 38 Scythian burials of the 5th to 4th century BC in the steppe of the Pontic region and in Crimea; however, the same author added several arbitrary items to the list: a large, heavily corroded iron fragment of an unidentified object from Kurgan 2, Burial 1, from the grave Kovalevka-V ([Kovpanenko et al. 1978](#), pp. 113, 116); a bar-shaped corroded iron object from Kurgan 15, Burial 1, from the grave Shirokoe-III ([Chernenko and Simonenko 1977](#), p. 25, pl. VI); a “dagger-shaped, completely disintegrated object” from Kurgan 2, Burial 1, in the Nosaki tract ([Bidzilya et al. 1977](#), p. 70); and a “damaged iron object” from Kurgan 1, Burial 4, near the village of Vladimirovka ([Kolotuhin 2000](#), p. 14). Also included on the list of finds from the 5th and 4th centuries BC were an axe from the mausoleum in the Scythian Neapolis of the 2nd century BC, the finds from the burial ground near the villages of Falshivyi Genedzhik and Tsukur-liman in the Kransodar region, and two axes from the Chastye kurgans in the forest-steppe of the middle Don region. Therefore, only 36 axes from 29 burials in this list are actually connected to the Pontic region and Crimea of the 5th and 4th centuries BC.

By 2018, we realized that the number of relevant axes found in 5th and 4th century BC burials in steppe Scythia was much greater than we had assumed, and we gathered all available information about them. This information is laid out in Table 1. The collected data provide a comprehensive view of all recorded axes, including information about their placement in the burials and their dates (Table 1).<sup>13</sup> At least for the 4th century BC, the list clearly demonstrates regional differences in the types of axes used in the Kuban valley and the middle Don region. Especially distinctive for the middle Don are the axes with a massive poll, which are virtually unknown elsewhere in the northern Black Sea region.<sup>14</sup> We currently possess information about 54 finds from the northern Pontic steppe of the 5th and 4th centuries BC: 41 iron axes of different kinds, 6 small bronze votive axes (Table 1: nos. 3, 30, and 49–52), and 2 model amulets (Table 1: nos. 53 and 54).

The new materials require additional types to be added to Ilinskaya's typology of axes. The first type is represented by small, elegant iron axes that combine the features and functions of axes and pickaxes. The best-preserved example of this type was found in a kurgan near the village of Krasnyi Podol. It is curved like a bow along its length and has an eye in the middle; a long narrow face that ends with a 2 cm long blade; and a long poll measuring 2.0 × 2.2 cm at its knob (Table 1: no. 21; [Polin 1984](#), p. 112, Figure 13: 3). It turned out that there were a surprisingly large number of such pickaxes: 13 recorded examples overall (Table 1: nos. 11 and 16–27), which all date between the end of the 5th century BC and the first half of the 4th century BC.

A confusing find in this group of axes, one from Kurgan 2, Burial 1 of the Ostraya Mogila grave, was described as “an iron hammer” by the excavators (Table 1: no. 27; [Olgovskiy and Polin 1977](#), p. 35). No drawing of this item was published, but one drawing was included in an earlier excavation report, which showed an object with a slightly curved edge along its length and two blunt rectangular ends ([Chernenko and Korpuseva 1968](#), pl. XII:1). The distinctive shape is similar to that of the pickaxes found at Krasnyi Podol, the

only difference being the shape of the ends. Of course, this object may have been used as a hammer; however, it is also more than suitable for battle.

Furthermore, a previously unknown group of double-sided axes has been found, of which three are made of iron (Table 1: nos. 28, 29, and 31) and one is a small double-bitted bronze votive axe of labrys shape (Table 1: no. 30).

Another previously unknown type is represented by the axes found in Vodoslavka, Kurgan 11, near the village of L'vovo and in the catacomb of Novomihailovka (Table 1: nos. 1, 2, and 6). These axes have a long wedge-like hacking part, an eye positioned closer to the short hammer-like poll, and an iron conical sleeve inserted into the eye for attaching the handle (Figure 1, Figure 4, and Figure 8: 1, 2). According to Ilinskaya's typology, they should be classified as a variety of axe-hammers.<sup>15</sup> However, the examples analyzed differed from those examined by Ilinskaya in the size ratio between the hacking part and the poll. Apart from their shape, a peculiarity of axes of this type is the presence of an iron sleeve inserted into the eye, which was previously considered a feature of pickaxes (according to Melyukova's typology) or poleaxes (according to Ilinskaya's typology). In the burials from the 5th and 4th centuries BC from the northern Pontic region, not only pickaxes, but also one axe from Burial 2, Kurgan 6, near the town of Dnepropudnyi, had an iron sleeve (Table 1: no. 26; Kuznetsova et al. 2020, pp. 27–28, 14, Figure 9a). Very surprisingly, such a sleeve was also recorded in an axe from the 2nd century BC from Burial 2 of the mausoleum of Scythian Neapolis (Schultz 1953, pp. 31, 33, pl. XI:3).

The types of axes found in Vodoslavka, Kurgan 11, near the village of L'vovo, and in the burial chamber of Novomihailovka, as well as the axe connected to Burial 2, Kurgan 18, near the village of L'vovo, are in agreement with the depictions of such objects in figure-decorated metalwork of the Classical period from the northern Black Sea region (i.e., the silver cup from the Chastye kurgans, the gold gorytos overlay from Soloha, and a medallion from Chersonesus), on coins from Kerkinits (Figure 4: 6), and on the Borysthenes coins of Olbia (Schultz 1953, pp. 31, 33, pl. XI:3). The axes from the entrance pit of the Novomihailovskiy burial are similar to those from Kurgan 10 of Kislichevskaya-I and the central tomb of Zheltokamenskaya Tovsta Mohyla (Table 1: nos. 7–8).

Two more amazing objects—from Kurgan 2 near the village of Ryleevka and from Kurgan 18 near L'vovo—have been added to the group of small bronze votive axes from steppe Scythia. A small bronze double-bitted axe of labrys shape—measuring 12 cm in length, with a 27 cm long handle—has been found in Kurgan 2, Burial 1, near the Crimean village of Ryleevka (Table 1: no. 30). Koltuhov convincingly identified it as an axe-scepter (Koltuhov 2012, p. 73, Figure 60: 2), comparable to the bronze votive axe with a 45 cm long handle from the kurgan of Posulie. The thinness of the handle and its length indicate that it was used as a non-functional staff or scepter. The small double-bitted axe from Ryleevka evokes Herodotus' description of a double-sided poleaxe used in the ritual oath (Herodotus 4. 70). The dating of the find to the 2nd to 3rd quarter of the 5th century BC also places it chronologically close to the Scythian customs he described (Koltuhov 2012, p. 73, Figure 60: 2).

The small bronze axe from L'vovo is especially notable (Table 1: no. 3). This unassuming object has great importance for Scythian history. The figure shape of the hacking part, the decoration of the poll and eye, and its size confirm that it was a votive axe rather than a weapon. Only Īllins'ka (1961, pp. 43–47, Figure 11: 1–9) and Nikonov (2015, pp. 406–9, Figure 4: 1–11) have examined Scythian bronze decorative axes in detail; the other researchers have confined themselves to short observations.

Ilinskaya has noted the absence of the shapes characteristic of small bronze decorative axes from the 7th to 5th century BC among the Scythian examples made of iron. She has argued that small bronze axes were not used as weapons and suggested their importance in other, non-functional contexts, as they continued to be deposited in Scythian burials and were depicted on the civic coinages of ancient cities on the Black Sea shore, as well as on the figure-decorated metalwork of the region. Ilinskaya saw the depictions of Scythian gorytoi, bows, and axes on the coins of Olbia as celebrations of Scythian weapons and suggested that these depictions may constitute evidence of the city's history of political relations

with the Scythians. She refuted Rostovtsev's and Grakov's claim that small bronze axes were symbols of power and royal status, as such axes have never been found in the elite kurgans of Scythian rulers. To the contrary, in all reliably recorded archeological contexts featuring small bronze axes, the items were found in middling burials of the warrior class of Scythian society. These burials did not stand out in terms of the wealth or opulence of the burial ritual. She considered the owners of these axes to be the scepter-carriers (*scēptūchus*) mentioned in the decree in honor of Protogenes, who, in real life, were not tribal chiefs but the leaders of relatively small warrior clans (İllins'ka 1961, pp. 43–47; Il'inskaya 1965, pp. 208–11; Rostovtsev 1913, pp. 8–9; Rostovtzeff 2011, pp. 99–100; Grakov 1971, p. 94).<sup>16</sup> Hazanov came to the same conclusion: he saw scepter-carriers as the members of the lower-level Scythian nobility—elders and heads of clans who led clan divisions in war (Hasanov 1975, pp. 182–83).

Only Nikonorov has discussed the subject of Scythian bronze axes in later periods, specifically the 6th to 4th century BC. Despite Ilinskaya's conclusion—justified by the available sources—that such small axes belonged to minor Scythian gentry (elders and clan leaders), Nikonorov saw these scepters (staves) as prestigious artifacts of the higher Scythian aristocracy (rulers, tribal chiefs, and leaders of tribal unions), as well as of the middle nobility. According to Nikonorov, the small axe from Kurgan 18 near the village of L'vovo "obviously copies the Scythian battle axe, depicted on the Borysthene coins from Olbia."<sup>17</sup> Nikonorov also believed that "starting from the 4th century BC, battle axes became the symbols of their owners' high rank, which is substantiated by their depiction on some items of Greco-Scythian metalwork with figure decoration of that time, clearly demonstrating the important role this kind of weaponry played in the concept of royal power among Scythians." However, all these statements were presented without supporting evidence. The researcher saw the depictions of Scythian weapons on the Borysthene coins from Olbia as a reflection of the deep political influence of the Scythians on the polis, especially after the Scythians helped it to fight off the invasion of Zopyrion of Macedon (Nikonorov 2015, pp. 406–9, 414–15).

Based on the finding of the small bronze axe in Kurgan 18 near the village of L'vovo, the Scythian axe depicted on Borysthene coins from Olbia obviously cannot be considered a battle axe (Alekseev 2008a, pp. 49, 52, note 1), as had been previously assumed (İllins'ka 1961, p. 46; Melyukova 1964, p. 65; Nikonorov 2015). Clearly, the coins depict a votive, decorative axe, which was well known to the citizens of Olbia. For them, it had a very specific meaning and was of great importance. Anohin was the first to notice the similarities between the small axe from L'vovo and the depictions on the Borysthene coins from Olbia (Anohin 1989, p. 39); this interpretation was subsequently adopted by Stolba (2007, p. 91; 2019, p. 528). Much later, Alekseev argued the same point without mentioning Anohin—although he was clearly familiar with all of Anohin's works (Alekseev 2008a, p. 47, Figure II: 1, 2, 4).

## 7. Scythian Votive Axes on the Borysthene Coins from Olbia

With regard to the small bronze axe from L'vovo, we would like to note one further aspect. The dating of the Olbian Borysthene coins has been conducted differently by different researchers. According to Zograf, the coins were minted from 290 to 225 BC (Zograf 1951, p. 131), while Karyshkovskiy dated them to 325–230 or 325–240 BC (Karyshkovskiy 1988, p. 82; 2003, p. 174). Anohin dated the same series to 300–289 or 310–280 BC (Anohin 1989, pp. 39–41, 107–9, nos. 127–215; 2011, nos. 295–386) and Stolba, between 330/325 and 275 BC (Stolba 2019, pp. 525, 529–30). Recently, Nikolaev attempted to refine Karyshkovskiy's dating to the period between 330 and 220/218 BC (Nikolaev 2021, p. 292).

It is therefore generally agreed that the Borysthene coins were minted within a period of 55–118 years. In 1984, Anohin published a description of a coin hoard found during the excavations at Olbia in 1978. The hoard consisted of 2 silver staters and 232 bronze Borysthene coins. While researching the composition of the hoard, Anohin made a number of very curious observations, on which quite surprising and extremely important conclusions were later based. The silver staters from the assemblage had Demeter's head on the

obverse and an eagle on a dolphin on the reverse and belonged to the series of 330–300 BC (Anohin 1989, p. 106, nos. 80–86, pl. IX: 80–86).<sup>18</sup> On the other hand, Borysthene coins of all known groups (except the first one) were present and featured 55 out of the 79 monograms known from Karyshkovskyi's data (55 out of 88 if we include their sub-variations) (Karyshkovskyi 1968, p. 63; 2003, p. 238). In earlier literature, the duration of a coin issue was defined by a simple equation—control monogram of the coin = one official responsible for the minting of Borysthene coins = one year of minting—according to which the Borysthene coins were minted over a century or more. However, the finds from the hoard of 1978 showed a completely different picture. Only nine monograms turned out to be combined with otherwise unknown obverse types. All others were connected with each other multiple times through shared obverse types, with as many as five shared stamps for some monograms. The use of one common obverse die is possible for a year or two, but the use of the same type for three or four years is highly unlikely. All known data about Greek coin stamps attest to their transience as a result of their rapid wear and the practice of discarding them upon disuse (Markov 1901, pp. 50–51). This seems to have applied to the Borysthene coins, based on the number of variations in the design of the obverse dies for each issue and the fact that identical obverse types are rarely encountered, even in a large hoard. Since there were from two to six matching obverse dies and monograms per year in the groups featured in the hoard, Anohin suggested that the service of the officials represented by these monograms was collegial. He concluded that the abundance of shared obverse types and identical controls on the Borysthene coins from the Olbian hoard of 1978 indicated that the assemblage was formed within a shorter period of time, certainly much shorter than the previously assumed century. Anohin determined that all the Borysthene coins from the hoard fit into 16 yearly editions and that the whole period of production (with possible pauses included) lasted no longer than 2 to 3 decades (Anohin 1984, pp. 18–26, 31–36).

In relation to the small axe from L'vovo, it is necessary to go back to defining the date when the Borysthene series was initiated. According to Alekseev (and later, Nikonorov), the beginning of the production of the issues was connected to the Scythian aid in fighting off Zopyrion's invasion in 331 or 325 BC, after which the Olbian Borysthene appeared as a symbol of the citizens' gratitude for the help they received in warding off the mortal threat (Alekseev 2008a, p. 47; 2008b, p. 53; Nikonorov 2015; Stolba 2019, pp. 525, 529–30). However, the small axe from L'vovo, found near Burial 2, which has been dated to no later than the beginning of the 3rd quarter of the 4th century BC (Polin 2014, pp. 285–87, Figure 218), was of the same type as the one depicted on the coin issues. Consequently, the axe itself was likely made in the first half of the 4th century BC, while the minting of the coins began in the second half of the 4th century, as originally suggested by Berthier-Delagarde (Berthier-Delagarde 1909, p. 91; Zograf 1951, p. 131) but later rejected as being somewhat too early, or perhaps we should place the beginning of the series even earlier—within the first half of the 4th century BC. In addition, the Borysthene coins were separated into three weight groups: 10–11 g, about 9 g, and about 5–6 g (Karyshkovskyi 1968, pp. 63–64). With such a short common period of minting, these coins may constitute a series of fractional denominations, the absence of which has always puzzled researchers.

Alekseev and Loboda have recently published new finds of Olbian bronze coins from the OI EIITA series. According to a long-established view, the inscription OI EIITA, found on the reverse of some Borysthene coins, unequivocally connects them with the activity of the so-called “Collegium of the Seven” that existed in Olbia from 230–225 BC (Karyshkovskyi 1976, p. 109; Alekseev and Loboda 2013, pp. 94–96, nos. 7–12). In addition to the rare inscription OI EIITA, the reverse always features the toponym OABIO with a set of Scythian weapons on top (i.e., a gorytos with a bow and an axe like the one from L'vovo) identical both in composition and in the placement of elements to the set of weapons pictured on the other Borysthene coins. On the front of the coin, a right-turned head of Zeus with a beard and diadem is depicted. There are three denominations of different weights and sizes in this series. Thanks to the good preservation of the coins described by



Alekseev and Loboda, the rendering of Zeus' head allows for close comparison with the god's head on the tetradrachms of Philip II of Macedon. Certain characteristic details such as the fall of the hair in large strands expanding from the top of the head, as well as the characteristic wreath, accurately convey the visual conventions of the Macedonian coins. The same applies to the details of the face, down to the distinctive shape of the moustache.

While the golden and silver coins of Alexander of Macedon continued to be minted in many parts of the Hellenistic world even several centuries after his death, the same cannot be said of the coins of Philip of Macedon. In general, the coins from the series OI EIITA can be considered a variant of the Borysthene coins with a different image on the front. It is hard to judge the reliability of the existing reading of the inscription. The similarity of the axe on the reverse of the OI EIITA coins to that on coins excavated at L'vovo, as well as the similarity of the head of Zeus on the obverse to that of the tetradrachms of Philip, constitutes valuable evidence for dating the series. Both stylistic links place the OI EIITA coins considerably earlier than the attested Collegium of the Seven. A much earlier date for this series may suggest additional interpretations of the coin legend and the series' place in the numismatics and history of Olbia.

As mentioned above, many researchers have assumed that the decision to depict Scythian weapons on the Olbian Borysthene coins resulted from the political dependence of the city on the surrounding Scythians, and that the change in iconography was related to the tribute that the citizenry was required to pay in the form of gifts. The fact that the small axe from L'vovo closely matches its counterparts on Olbian coins allows for more precise dating. The hypothesis of a Scythian protectorate over Olbia going back to the 2nd quarter (certainly no later than the middle) of the 5th century BC has already been vigorously promoted by Yuri G. Vinogradov, even in the absence of any serious evidence (Vinogradov 1989, pp. 90–109). As Yaylenko has correctly pointed out, the fact that the Scythian rulers were given gifts does not necessarily mean that they had established political hegemony over the gift-giving cities. The gifts may equally likely have been a payment for non-aggression and peaceful coexistence without political dependence (Yaylenko 2017, pp. 269–71). Scythian rulers certainly did not need to establish dominance over the city through violent means to receive gifts from Olbia. It would have been enough if a small group of riders, minimally armed, had appeared near the city walls at wheat harvest time and given the citizens a simple choice—to have their fields burned or to hand over a small portion of the harvest's value as a gift. Of course, the legendary ruler Skiluros, whose dealings with the city can be dated to the middle of the 5th century BC (Herodotus 4. 78–80), was not the originator of this foolproof tactic. Relationships of this kind often occurred between nomadic pastoralists and sedentary farmers in disparate areas of the Eurasian steppe, and—to judge from a decree in honor of Protogenes from the end of the 2nd to the beginning of the 1st century BC—this method of “forced friendship” worked flawlessly in Olbia for centuries. Skiluros' intervention was exemplary only in the sense that it implemented this tactic with minimal effort to maximal effect. According to Herodotus, he bought himself a house in Olbia, where he would stay “for a month or more,” and married a local woman. He gladly took part in the city's festivities, and then, sated with feasts, left the town with lots of gifts in tow. Such cordial relations did not prevail for long, however, as Skiluros' followers had to wait for the gifts under rather less hospitable conditions outside the city walls, and that eventually led them to rise against their leader. Nevertheless, the effectiveness of the transactional principle is beyond doubt. Most likely, a large proportion of the gold discovered in Scythian kurgans (representing probably less than 1% of the precious metal originally deposited in these tombs) was obtained through these simple but effective exchange arrangements, rather than through Scythian–Greek trade or through long-distance trade exchanges with the inhabitants of the Urals, Kazakhstan, or Altai. It is difficult to see how the Scythians could have offered an appropriate trade equivalent to the exorbitant amount of gold they received from the Greeks. The Scythians' mobile economy simply did not generate enough products that could interest the Greeks.

All the Scythian burials that yielded iron axes belonged to warriors of relatively low social classes. To this day, nothing unequivocally ties these axes to royal status. Only the bronze votive axes—also found in burials of less wealthy warriors—indicate that the tomb's incumbents were of higher status than ordinary warriors. The new finds of bronze votive axes in Ryleevka and L'vovo greatly strengthen the arguments of Ilinskaya and Hazanov, who saw the owners of small bronze axes from Scythian burials as members of the minor clan or tribal nobility; that is, elders, leaders who would take charge of clan divisions in war (Illins'ka 1961, pp. 43–47; Il'inskaya 1965, pp. 208–11; Hasanov 1975, pp. 182–83). The fact that these groups of warriors were, according to the archaeological record, quite small does not weaken their arguments. Little time and few men were needed to destroy a field full of crops and deprive the city of its harvest. The minor clan leader who was buried in L'vovo—some 109 km from Olbia in a straight line—could certainly present a serious threat to the peace and prosperity of the city's inhabitants. As the city was unable to get rid of such raiders through military force, all they could do was to pay them off.

## 8. Chronology

To judge from the multiple finds from this grave and a funeral feast connected to it, Burial 1 in Kurgan 1 near Vodoslavka dates to no later than the beginning of the 3rd quarter of the 4th century BC (Daragan and Polin 2020, p. 51; 2022, p. 100).

Burials 5–6 from Kurgan 11 near the village of L'vovo have been dated to between the 380s and the end of the 4th century BC using a biconical amphora from Heraclea Pontica of Monahov's Variants II-A-2, III-2, or III-3 (Monahov 2003, pp. 136–38, 141–42, pls. 96:5–7; 98; 99; 2016, pp. 357–70; cf. Polin and Alekseev 2018, arguing for c. 348–349 BC). Burial 2, also in Kurgan 11, where a bronze cup similar to the one in Burials 5–6 was found, can be dated to the beginning of the 3rd quarter of the 4th century BC thanks to the inclusion in the burial assemblage of a Sinopean amphora with a stamped handle and a black slip cup (Polin 2014, pp. 559–60). These finds allow us, in turn, to narrow the dates of Burials 5–6 in the same kurgan to between the 2nd quarter and the beginning of the 3rd quarter of the 4th century BC.

Similarly, Burial 2 in Kurgan 18 near the village of L'vovo has been dated to between the 2nd and the beginning of the 3rd quarter of the 4th century BC, using stamped amphorae and a lekythos of gray fabric (Polin 2014, pp. 285–87, Figure 218).

Burial 1 in Kurgan 5 near the village of Novomihailovka has been dated using black slip ceramics to the middle to the 3rd quarter of the 4th century BC (Polin 2014, p. 567).

Therefore, the entire series of axes discussed in this article can be dated to the 2nd to the beginning of the 3rd quarter of the 4th century BC.

## 9. Axes of Different Depositional Types in Funeral Rituals

### 9.1. Depositional Type 1: The Axe on Top of the Upcast Soil from Kurgan 1 near the Village of Vodoslavka

In this instance, an iron axe, driven into the top of a hemispherical mound of the upcast soil that sealed the entrance to Burial 1, marks the end of the funeral ceremony for the deceased in Burial 1. The axe was driven through the top of the soil construction over entrance pit no. 1 of the catacomb, which contained the kurgan's initial burial of a woman of mature age, possibly in the company of a male servant of adult age (Figure 1). Later, a man of mature age was buried in the same catacomb through entrance pit no. 2. To judge from the reconstructed original height of Kurgan 1 (5 m), the complexity of the burial ritual, and the wealth of the inventory that survived the looting, the deceased in Kurgan 1 likely belonged to clan-level nobility. Perhaps the axe was driven through the soil mound on top of the women's burial as an offering from her husband, who was also buried there after his passing.

### 9.2. Depositional Type 2: The Axe under the Upcast Soil in Kurgan 18, Burial 2, near the Village of L'vovo

In this example, the burial ritual proceeded in reverse order from that recorded at Vodoslavka. The axe was placed on the embankment of the second kurgan before excavation

work for the catacomb of Burial 2 began. It should be noted that the axe was buried under the clay from the subsoil under the kurgan. To reach the clay level under the kurgan, the excavation of the entrance shaft had to cross the chernozem mound of the kurgan, as well as the layer (2 m thick) of buried chernozem under it. While the upcast chernozem from the shaft was deposited somewhere nearby, the excavators were unable to distinguish it precisely from the rest of the topsoil of the successive mounds and the fill of the entrance shafts. The subsoil that covered the axe was, however, clearly identifiable thanks to its clayey composition. A large amount of this clay also filled the upper half of the entrance shaft of Kurgan 2 (Figure 9: cut nos. 2 and 3).

Burial 2 was accompanied by ample enlargement of the kurgan's mound and the stone krepis (Figure 9). The construction of Burial 2—a pit with a niche in its wall—stood out because of its rather large size compared to most ordinary Scythian burials. The burial contained the remains of a man of 30–40 years (according to Krutz's definition), accompanied by a diverse set of objects, including a plate with a food offering, a set of weapons (two spears, a dart, and two quivers with 135 arrows), two wine amphorae, and a lekythos of gray ceramic fabric. According to Bunyatyan's classification—the fifth model of social stratification of the common Scythian populace—the man belonged to the lower level of the aristocracy (Bunyatyan 1985, pp. 96–97). In general, Kurgan 18 contains the burials of the local Scythian clan leaders. In fact, only the small bronze axe indicates the fairly high status of the buried, who was probably a clan head. All in all, the finds confirm Ilinskaya's and Hazanov's conclusion that the owners of small bronze axes were minor nobles, specifically, clan leaders, whose burials did not otherwise stand out in terms of their luxury.

Axes were not the only category of objects deposited by the Scythians during the initial stages of the burial ritual *either under or on top of the upcast subsoil*. Other objects were also used for this purpose. For instance, in Kurgan 7 near the village of Segreevka, clusters of spheroid stones (eight in all) were placed *on top of the upcast subsoil* in a small channel (Kubyshev et al. 1976, p. 147). Two spheroid stones measuring 0.5 m in diameter were likewise placed on a mound of the upcast subsoil in the central tomb of Tovsta Mohyla. The surface of the upcast soil from entrance pit no. 1 of the side tomb of Tovsta Mohyla revealed a set of decorations for the funeral cart, consisting of 6 bronze endings, about 100 round bronze plaques, cheekpieces, nosebands, vorvarkas, cylindrical beads in the form of short tubes, and bells, as well as no less than four sets of iron bits with cheekpieces (Mozolevskiy 1979, pp. 46, 94).

*Under the upcast subsoil* from side Burial 2 of Babina Mogila, a shoulder of a large animal was found, which was likely used as a shovel for removing loosened soil. Two more such spatulas were found under the upcast soil of the main Burial 1 of Kal'kova Mogila (Mozolevskiy and Polin 2005, p. 256). On either side of the passage, between the piles of mainland upcast subsoil from the central grave of the Krasnokutskiy kurgan, the following objects were recorded: 2 large clusters (0.9 × 0.55 m) of iron fittings from dismantled carts and wheels; 4 bronze pole tops; over 100 iron bits with cheekpieces; and bronze appliques from the bridles and the funeral cart (ДТС-I 1866, pp. 44–47).

*Under the upcast subsoil* from Burial 1, Kurgan 1, near the village of Vladimirovka, the excavators discovered a bridle buckle, a piece of orange-red mineral measuring 4 × 5 cm, and fragments of a set of spring pliers, all of which had been deposited over a layer of eelgrass (Polin and Kubyshev 1997, p. 23). On top of Burial 2, Kurgan 3, near the same village, a spheroid stone (3.5 cm in diameter) had been placed over an eelgrass layer under the upcast subsoil (Polin and Kubyshev 1997, p. 27). In Kurgan 32 near Katerinovka (the town Ordzhonikidze), under the upcast soil from the main Burial 3, fragments of amphorae were found. Subsequent refitting showed that the fragments matched amphora sherds from the bottom of the ditch that enclosed the kurgan, providing evidence of a funeral feast that took place before the catacomb of the initial burial in the kurgan (i.e., Burial 3) was dug out and the tumulus of the kurgan was built (Polin 2011, pp. 240–41).



On the ancient ground surface under Kurgan 8 near the village of Sheluga—a construction 2.3 m tall built around the middle of the 5th century BC—a layer of eelgrass covered the following objects: two bronze vorvarkas and arrowheads, iron spearheads, and several golden objects, including a neck ring and a large vorvarka (Kubyshev and Kupriy 1992).

In the sole burial of Kurgan 10 near the village of Bubnovaya Slobodka, the excavators found a bronze cauldron that had been placed in a special pit dug into the ancient ground surface before it was covered by a 1.2 m tall tumulus (Belyaev 1983). Near the perimeter of the upcast subsoil from Burial 4 of Kurgan 5 near the village of Nagornoe, another bronze cauldron was found standing in a similar arrangement (Mozolevskiy 1973, p. 194). Finally, during the removal of the upcast subsoil from the main Burial 4 of Kurgan 13 near the village of L'vovo, bridles and cheekpieces were discovered (Evdokimov 1992, p. 147).

### 9.3. Depositional Type No. 3: The Axe in a Niche at L'vovo Kurgan 11, Burials 5–6

In the heavily ploughed-over Kurgan 11 at L'vovo (preserved height 2.3 m), two members of the local clan nobility were interred in consecutive rituals: the first one (Burial 5) through entrance pit no. 1; the second (Burial 6), through entrance no. 2. To judge from the objects that survived the tomb's looting, Burial 5 belonged to a man; the secondary Burial 6, to a woman, perhaps the wife of the tomb's initial occupant, for whom the construction had been designed. Few of the items from the grave inventories remained intact; among them, parts of a wooden burial platform and two skeletons; attachments from spear handles and arrowheads; animal bones from the food offering; and a knife. Much more informative are the contents of the niche connected to Burial 5, which escaped the attention of the grave robbers. The niche contained an amphora, a spearhead, two dart heads, an axe, animal bones from a food offering, and a bronze cup with a bracelet with an arrowhead inside. Irrespective of the tomb's previous disturbance, it appears that neither Burial 5 nor Burial 6 was exceptionally rich, indicating that the occupants of the tomb were of middling status.

The set of objects from the niche of Burials 5 and 6 matches the implements used in the famous Scythian ritual oath described by Herodotus: a wine cup, an arrow, an amphora with wine, spearheads, two dart heads, and an axe (Herodotus 4, 70). It is difficult to say whether this correspondence corroborates the practice of the oath or whether the similarity is coincidental.

The niches in the walls of Scythian catacombs typically contain household items (i.e., of everyday use, such as for cooking and storing food) as well as the burials of accompanying people. However, in a number of cases—as in the niches of Burials 5 and 6 of Kurgan 11—the niches contained weapons alongside the household items, or, indeed, contained only weapons. In the northern Grave no. 1 at Gaimanova Mogila, a burial of a guard (Burial 1) with a military belt, a quiver of arrows, spears, and darts was placed in the northern niche along with an exceptionally rich set of metal tableware and wine amphorae. In the southern niche, the disturbed remains of an accompanying burial of a woman were discovered (Burial 2) (Bidzilya and Polin 2012, pp. 87–96, Figure 113–123). In Burial 4, Kurgan 9, near Velikaya Lepetiha, a bow and a quiver were placed in one of the niches of a woman's burial (Evdokimov et al. 1992, p. 17). In the southern niche of Chamber V at Chertomlyk, a gorytos, swords, belts, a whetstone, and a whip were found (Alekseev et al. 1991). In Niche Д in the northern wall of the side tomb at Soloha, a cache revealed a gorytos with a silver overlay and a gold phiale (Mantsevich 1987, p. 22). In the central tombs of the Alexandropol kurgan, one niche yielded an oversized bronze cauldron, while a second one contained wine amphorae. The purpose of the third, looted niche remains unknown, owing to its poor state of preservation (Polin and Alekseev 2018, p. 259). In the 1909 excavations at Chmyreva Mogila, Veselovskiy opened a niche with 11 silver vessels in the wall of the central catacomb, which had been sealed with clayey subsoil (Veselovskiy 1910, p. 307). As the examples show, the niches in Scythian burials performed a variety of functions that were practical as well as ritualistic.

#### 9.4. Depositional Type No. 4: Weapons, Including Axes, in the Entrance Pit and Dromos of Novomihailovka Kurgan 5, Burial 1

In the ploughed-over Kurgan 5 (preserved height 1.4 m), the main burial (Burial 1) in the center was a catacomb of Grakov's Type III (Grakov 1962, p. 84) of modest height and depth (3.0 m from the ancient surface). Looted before its discovery, Burial 1 contained parts of a male and a female skeleton, which appear to have been buried around the same time. The grave offerings comprised a surprisingly complete set of offensive weapons, including arrows with a bow, two swords, no fewer than four spears and darts, and an axe. The set of weapons was complemented by a set of horse bits and cheekpieces, two plain black kantharoi, a silver vessel with a golden handle, vorvarkas, beads, a spindle whorl, pieces of graphite, and knives. A distinctive feature of Burial 1 was the presence of two iron axes, intentionally placed opposite each other in the center at the base of the wall (Figure 2). It is difficult to determine how rich the tomb might have been prior to its looting. To judge from its size, the burial was not overly sumptuous as it contained few gold objects (seal rings, earrings, and so on) but not much more. The surprisingly full set of offensive weapons and the bridle parts suggest that the deceased was nevertheless of an elevated status—a well-off Scythian warrior.

The placement of the axes in the burial at Novomihailovka mirrors the situation in Kurgan 4 at the Nosaki tract, where spearheads were driven into the floor in the corners on either side of the entrance pit of the central tomb (Bidzilya et al. 1977, p. 89). Presumably, these were originally complete spears with shafts. A spearhead was found in a similar location in the corner of entrance pit no. 1 of Tomb no. 2 at Babina Mogila, that is, near the entrance to the dromos (the corridor leading from the surface to the burial chamber) (Mozolevskiy and Polin 2005, p. 116, Figure 56). In the Melitopolskiy kurgan, a pickaxe covered with a stone was found at a depth of 4.4 m in the eastern corner of the fill of the entrance pit connecting to the male Burial no. 2. Since the looters' tunnel passed through the western part of the pit, the stone fill in the eastern part remained untouched (Terenozhkin and Mozolevskiy 1988, p. 43). Therefore, we can confidently assume that the placement of the pickaxe was neither accidental nor a result of the tomb's looting, but an intentional deposition associated with the funeral rites.

In the northern Tomb no. 1 at Gaimanova Mogila, a pickaxe was also placed in the passageway between the chamber and the dromos of entrance pit no. 1 (Bidzilya and Polin 2012, pp. 83, 306, Figure 431). The most striking instance of such a deposition comes from the dromos in the central tomb of Tovsta Mohyla. At the beginning of the dromos—still within the entrance pit—a guard's skeleton was found, while the area near the chamber itself contained bronze vessels, a large three-handled amphora, a whip, two quivers with arrows, a scale armor belt, a sword in a golden sheath, and, finally, a luxurious pectoral (a piece of jewelry worn on the chest). All these objects were trapped under the soil of the collapsed ceiling and, consequently, remained unnoticed by the robbers.

#### 10. What Else Could Be Put into the Entrance Pits?

The ritual character of the axe depositions becomes clearer once we consider what other finds can come to light in entrance pits. Occasionally, single fragments of amphorae and animal bones have been discovered in the fill of undisturbed entrance pits of Scythian burials, where they can be assumed to be evidence of offerings that had probably been thrown into the pit together with soil and stones by the guests attending the funeral (Polin 2014, p. 108). Normally, however, such finds tend to present a telltale sign that the burial has been visited by robbers.

Very rarely, precious items are discovered, such as the gold signet ring in front of the sealed entrance to the catacomb at the bottom of the entrance pit in Burial 4, Kurgan 9, near the village of Malaya Lepetiha (Evdokimov et al. 1992, p. 16). A gold signet ring was also found at the entrance to the catacomb of a woman's burial (Burial 1) in Kurgan 16 of the Mamai-Gora cemetery (Andruh and Toshev 1999, p. 101). Elsewhere, mirrors have been found in similar locations in entrance pits or the dromoi of catacombs (Otradnoye

Kurgan 3, Burial 2; Sholohovo Kurgan 16, Burial 1; Novopetrovka-3, Kurgan 10, Burials 2–3; the tomb of Storozhevaya Mogila, Kurgan 3, Burial 3; Korneevka, Kurgan 2, Burial 3; [Polin and Daragan \(2019a\)](#), pp. 210, 238–39, pls. 156–58, 162)). In 27 cases recorded in steppe Scythia, the entrance pit of ordinary burials of armed men from the 4th century BC yielded the remains of one to three horse burials with bridles, occasionally accompanied by saddles ([Daragan and Polin 2020](#)).

Notably, too, the gold gorytos overlay and the pectoral from the purported tomb of Philip II of Macedon in Vergina had been found in the entrance chamber ([Andronikos 1994](#), p. 78, figs. 36–38; [Babenko 2019](#), p. 278).

Finally, axes have also been recorded in the entrance pits of the Saltovo-Mayatskiye catacombs and are considered a ritual element by the excavator ([Vladimirov 2015](#), p. 362).

### 11. Finds of Shoulder Bones of Large Animals as Functional Substitutes for Axes

Since an axe is functionally fit for both labor and military purposes, adequate criteria for distinguishing working and battle axes in archaeology are difficult to define ([Ryndina et al. 2008](#), p. 164).<sup>19</sup> At first glance, only the klevets is clearly intended for a military purpose.<sup>20</sup> Therefore, the axes found in the entrance pit and the dromos of the kurgan at Novomihailovka should perhaps be interpreted in light of the shoulder bones of large animals excavated in the entrance pits of some tomb constructions, which were employed as tools for digging the graves. In fact, we cannot rule out that the axes from Novomihailovka were used as makeshift soil-moving implements. Such tools are necessary for excavating subterranean tombs in the northern Pontic steppe, since the clayey subsoil can be considerably dense and hard and thus require great effort.

While such shoulder bones are often found in Scythian burials, they are clearly unrelated to the obligatory food offerings. Use wear on the shoulder bones shows that they were specially processed and used as shovels for pouring aerated soil into containers before it was lifted to the surface. The narrow end of the bone is often polished to a shine as a result of its intensive use as a handle. The scapula spine is often cut to shape, and the transverse edge is sharpened. Without special research, it is hard to tell whether the vertical rim of the front edge had worn off owing to its repeated contact with the soil, or whether the bone had been intentionally prepared that way ([Mozolevskiy and Polin 2005](#), p. 256).<sup>21</sup> At the bottom of the undisturbed entrance pit no. 2 of Tomb no. 2 in Babina Mogila, a cluster of such spatulas was found, and two more had been placed opposite each other under the walls at the entrance to the tomb's dromos ([Mozolevskiy and Polin 2005](#), p. 117, Figure 56). In Kal'kova Mogila, one spatula was found under the lateral wall of the entrance pit to the central tomb ([Mozolevskiy et al. 1986](#)). Moreover, as noted above, in both Kal'kova Mogila and Babina Mogila, spatulas were also found on the ancient ground surface under the upcast subsoil. A spatula was found in the second entrance pit of the secondary burial in Kurgan 3 near Novotroitskoe ([Kubyshev et al. 1976](#), p. 86). A spatula also appears to have been recovered in the dromos of the first entrance pit in Kurgan 9 near Mar'evka ([Bunyatyan and Fialko 2009](#), p. 58).

In addition to their utilitarian function as a digging tool, animal shoulders seem to have had a high semantic status in many cultures, to judge from their prominence in various ritual activities ([Badmaev 2015](#)). The find contexts of shoulder bones in some Scythian burials point to their role and meaning in ritual practice. In Burial 2, Kurgan 53, and Burial 3, Kurgan 109, on the burial ground of Mamai-Gora, worked animal shoulders were found in wooden bowls at the entrance of the catacomb ([Andruh 2001](#), pp. 45, 170). Another telling instance comes from Kurgan 2, Burial 1, near the village of Velikaya Znamenka, where a bovine shoulder bone was placed on top of gold pendants and headdress plaques, two inlaid bone spinning wheels, a set of iron piercers and needles, and a lead spindle whorl in a distinctive assemblage that was arranged separately from the rest of the burial inventory. It is worth noting that even though these personal adornments and textile-working tools carry strong feminine associations, the tomb is otherwise identified as a man's, by both the skeletal material and the character of the rest of the grave inventory ([Otroschenko](#)



1979, pp. 68–70). This situation mirrors the one of Burial 2 of Soboleva Mogila, where a spinning wheel was placed on a separate animal skin near the entrance to the chamber of the male burial, at some distance from the burial platform holding the deceased and all of the (typical masculine) objects that accompanied him (Mozolevskiy and Polin 2005, p. 156).

## 12. The Meaning of Axes in Scythian Burials

The placement of the axes in other Scythian steppe burials indicates that they belonged to the deceased as part of the personal equipment of warriors (Table 1, with map of key sites in Figure 13). These axes were most often placed to the right of the buried. In two instances (Nikolaevka Burial 43 and Zeleniy Gai Kurgan 5, Burial 5), the axes were driven through the floor of the chamber. In three cases, the axes were deposited to the left of the skeleton (Vladimirovka Kurgan 3, Burial 1 and Shevchenko-III Kurgan 8, Burial 5) or under the pelvis (Talaevskiy Kurgan).



**Figure 13.** Location of the axes mentioned in the article. (1) Vodoslavka Kurgan 1; (2) Novomikhailovka Kurgan 5; (3) L'vovo Kurgan 18; (4) L'vovo Kurgan 11; (5) Novonikolayevka Kurgan 1; (6) Shevchenko-III Kurgan 8; (7) Shirokoe-II Kurgan 62; (8) Ostroy Mogily Kurgan 2; (9) Brilevka Kurgan 9; (10) Privol'noye Kurgan 10; (11) Novaya Mayachka Kurgan 18; (12) Krasnyy Podol-I Kurgan 2; (13) Lyubimovka Kurgan 6; (14) Lyubimovka Kurgan 28; (15) Mamai-Gora Kurgan 108; (16) Gaymanova Mogila; (17) Dneprorudnyy Kurgan 6; (18) Skel'ki Kurgan 13; (19) Vladimirovka Kurgan 4; (20) Melitopol'skiy Kurgan; (21) Berdyanskiy Kurgan; (22) Katerinovka (Ordzhonikidze) Kurgan 49; (23) Zavadskaya Mogila; (24) Strashnoy Mogily Kurgan 4; (25) Kamenka-I Kurgan 6; (26) Zheltokamennaya Mogila; (27) Zeleniy Gai Kurgan 5; (28) Golovkovka Kurgan 27; (29) Mar'yevka Kurgan 16; (30) Kichkas burial 25; (31) Kislichevataya-I Kurgan 10; (32)–(33) Kugurluy Kurgan 11 and Kurgan 15; (34) Plavni Kurgan 32; (35) Nikolayevka Burial 43; (36) Glinnoye Vodovod Kurgan 7; (37)–(38) Butory-I Kurgan 10 and Kurgan 15; (39) Berezan'; (40) Ryleyevka Kurgan 2; (41) Talayevskiy Kurgan; (42) Simferopol' Kurgan 1; (43) Chernozemnoye Kurgan 1; (44) Pyatibratniy Kurgan; (45) Vysochino-V Kurgan 24.

As already pointed out above, all such depositions of axes in Scythian tombs of the northern Black Sea region occurred in male burials.<sup>22</sup> This general pattern is also borne out in the toy or amulet found to the right of a child's skeleton in Burial 1, Kurgan 10, near the village of Privolnoe. This miniature iron axe had one sharp end and one blunt one opposite in the form of a poll with a hole in the middle (dimensions: 2.2 × 1 cm) (Table 1: no. 54). A related find comes from the burial of a ruler from Pyatibratniy Kurgan 8, where a gold votive model of a small axe with a curved poll was found as a part of a necklace (Table 1: no. 53).

**Table 1.** Catalogue of finds of axes in Scythian steppe burials from the 5th to the 4th centuries BC.

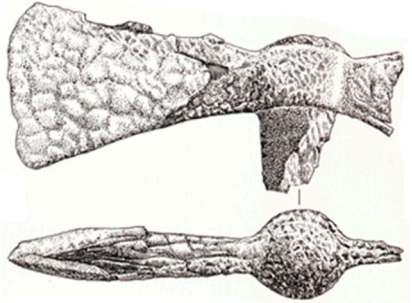


| No. | Name of Kurgan/Burial         | Find Spot within Burial Site  | Description   | Sex                  | Source/Date <sup>23</sup>  | Appearance of the Axes  |
|-----|-------------------------------|---|---|----------------------|--|---|
| 1   | Vodoslavka Kurgan 1           | Stuck in the top of the subsoil discharge above the burial.                 | An iron axe with a long wedge-shaped cutting part, thin butt with a chipped end. The eye is round in plan and is highlighted by a cylindrical thickening. A cylindrical iron sleeve is inserted in the lower part, with the remains of the wooden handle inside. An iron wedge has been hammered into the handle from above (Figure 1). Length 16 cm, length of the cutting part 10 cm, preserved length of the sleeve 6 cm, width of the blade 7 cm, diameter of the hole 2.5 cm.                                | Male + Male + Female | <a href="#">Kubyshev et al. (1983)</a> . The 2nd quarter to the beginning of the 3rd quarter of the 4th century BC— <a href="#">Daragan and Polin (2020, p. 51; 2022)</a> .  |    |
| 2   | L'vovo Kurgan 11, Burials 5–6 | In the niche in the chamber.  | An iron axe with a long wedge-shaped cutting part and a hammer butt bent downwards with a rounded cone on the end. The eye is round in outline and marked by a cylindrical extension sharply offset to the butt. A tapered iron sleeve with a narrow roller at the base is inserted in the eye (Figure 8: 1, 2). Length 19 cm, blade width 7 cm, sleeve length 12 cm, diameter 3 cm.  | Male                 | <a href="#">Terenozhkin et al. (1973a, pp. 65–67)</a> . The 2nd quarter to the beginning of the 3rd quarter of the 4th century BC.   |   |
| 3   | L'vovo Kurgan 18, Burial 2    | Under the mainland subsoil discharge from the burial near its entrance pit. | A bronze axe with a rounded curved blade with a small spur on the underside. A high cylindrical eye with a conical opening widened towards the top and decorated with 4 faceted vertical protrusions on the outside. The butt is in the form of a griffin protome. The length of the axe is 12.4 cm, the length of the cutting part is 6.3 cm, the width of the blade is 7.3 cm, the height of the eyelet is 2.6 cm, the diameter of the hole is 1.2 × 1.7 cm at the top, 1.1 × 1.2 cm at the bottom (Figure 10). | Male                 | <a href="#">Kubyshev et al. (1982, pp. 140–41)</a> . The 2nd to no later than the beginning of the 3rd quarter of the 4th century BC— <a href="#">Polin (2014, p. 287)</a> . |  |

Table 1. Cont.



| No. | Name of Kurgan/Burial              | Find Spot within Burial Site   | Description   | Sex           | Source/Date <sup>23</sup>   | Appearance of the Axes   |
|-----|------------------------------------|--|---|---------------|---|--|
| 4–5 | Novomikhailovka Kurgan 5, Burial 1 | Bottom of entrance pit, axes were put under the opposite side walls, placed in the middle of each. | <p>1. An iron axe with a long, wedge-shaped, slightly drooping cutting part and a short trapezoidal butt. The eye is round in plan, highlighted by a cylindrical thickening. There are traces of wood from the eye (Figure 3: 1). Length 11.5 cm, width of blade 4 cm, length of butt 2.5 cm, diameter of eye 2.5 cm, eyelet 1.5 cm.</p> <p>2. Iron axe with a wedge-shaped, slightly drooping cutting part and a round eye, highlighted by a cylindrical thickening. The butt is missing. There are traces of wood in the sleeve (Figure 3: 2). Preserved iron wedge hammered into wooden handle from above within the eyelet, a flat trapezoidal plate measuring <math>4.7 \times 1.1\text{--}1.9 \times 0.3</math> cm (Figure 3: 3). Length 13.5 cm, blade width 4 cm, diameter of eyelet 4 cm, hole 2 cm.</p>   | Male + Female | <p>Kubyshev et al. (1985, p. 77). The middle to 3rd quarter of the 4th century BC—Polin (2014, p. 567).</p> |   |
| 6   | Novomikhailovka Kurgan 5, Burial 1 | In a burial chamber at the bottom near destroyed and robbed burial.                                | <p>1. An iron axe with a long wedge-shaped cutting part and a hammer-shaped, rectangular butt (bent and broken off). The round eye is displaced to the butt. It is marked by a cylindrical extension (Figure 4: 1). A long iron conical sleeve with a narrow clutch at the base was inserted into the eye (Figure 4: 2, 5).</p> <p>2. The lower end of the handle had an iron stock: a long cylindrical tube with a massive tip in the form of an inverted truncated cone (Figure 4: 3, 4). The length of the axe is 17.5 cm, the width of the blade is 6.7 cm, the preserved length of the butt 2 cm, the length of the sleeve 12 cm, diameter 2.5 cm, the length from the handle is 16 cm, its diameter 1.7 cm, the diameter of the tip is between 2 and 4 cm, the hole in it 1.2 cm, its height is 1.7 cm. Total length of axe with reconstructed handle is about 60 cm (Figure 4: 5).</p> | Male + Female | <p>Kubyshev et al. (1985, p. 77). The middle to 3rd quarter of the 4th century BC—Polin (2014, p. 567).</p> |  |



Table 1. Cont.

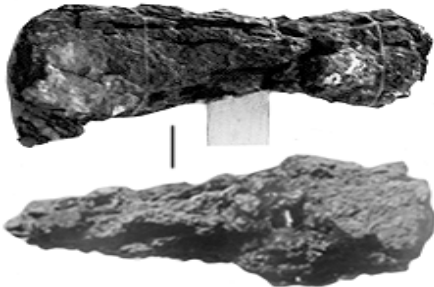

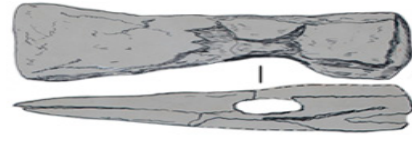

| No. | Name of Kurgan/Burial                           | Find Spot within Burial Site                               | Description  | Sex           | Source/Date <sup>23</sup>   | Appearance of the Axes  |
|-----|---|--|--|---------------|---|---|
| 7   | Kislichevataya-I Kurgan 10, Burial 1            | In the robbed burial                                       | An iron axe with a wedge-shaped cutting part and a short rounded butt. The eye is round in outline, highlighted by a cylindrical extension. Length 14.5 cm, width of the blade 5 cm, butt 4 cm.  | Male + Female | <a href="#">Kovaleva (1987, p. 97, Figure 203);</a><br><a href="#">Mukhopad (1989, p. 75, Figure 1: 14).</a><br>The 2nd quarter of the 4th century BC.        |    |
| 8   | Zhelto kamenskaya Tolstaya Mogila. Central Tomb | In the robbed burial.                                      | Iron axe with a wedge-shaped cutting part. The butt is rectangular in cross-section, measuring 2 × 2.8 cm, extending down to 4.5 cm. The eyelet is round in plan, shifted closer to the butt. It is marked by a cylindrical thickening. Total length 15.5 cm, diameter of the eyelet 4 cm, diameter of the hole 1.2 cm.  | Male + ?      | <a href="#">Mozolevskiy (1982, p. 208, Figure 34: 22, 350–340)</a><br>The 2nd to the 3rd quarter of the 4th century BC— <a href="#">Polin (2014, p. 454).</a> |    |
| 9   | Gruppa Strashnoy Mogily Kurgan 4, Burial 2      | Near the right hand.                                       | An iron axe with a long wedge-shaped cutting part, with a small notch at the bottom and a massive highlighted rectangular butt. The length of the axe is 20 cm; the width of the blade is 5.5 cm. The eyelet is oval and 3.5 cm long, with remnants of a wooden handle in it.  | Male + Female | <a href="#">Terenozhkin et al. (1973b, pp. 142–43, Figure 28: 12).</a><br>The 2nd to 3rd quarter of the 4th century BC— <a href="#">Polin (2014, p. 539).</a> |   |
| 10  | Katerinovka (Ordzhonikidze) Kurgan 49, Burial 1 | On the right side at shin level perpendicular to the legs. | The axe is an iron axe with a long cutting part, which converges on the tip at the very end, and a short, solid butt. The longitudinal section is wedge-shaped, equally wide from the butt and almost to the point. It resembles a cleaver. With a total length of 18 cm, the hole with a diameter of 1.5 cm is located 5.5 cm from the butt. The butt is massive, apparently rectangular. Total length 18 cm; cross-section 5 × 4 cm. | Male + Female | <a href="#">Polin and Daragan (2018).</a><br>The 2nd quarter of the 4th century BC.   |  |

Table 1. Cont.

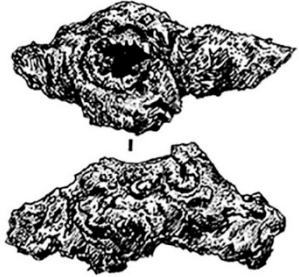
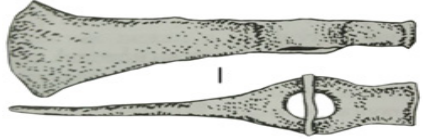

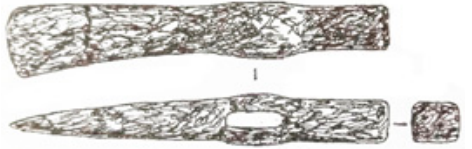
| No. | Name of Kurgan/Burial           | Find Spot within Burial Site                             | Description   | Sex         | Source/Date <sup>23</sup>   | Appearance of the Axes  |
|-----|---------------------------------|--|---|-------------|---|---|
| 11  | Butory-I Kurgan 10, Burial 2    | In the robbed burial.                                    | A fragment of an iron axe curved along its length has been preserved: the central part with a circular in plan highlighted cylindrical eye with adjacent parts of the cutting part and the butt. The preserved length is on the scale of 10 cm. The diameter of the hole is 1.8 cm.   | ?           | <a href="#">Sinika et al. (2013, p. 65, Figure 42: 10).</a>   |    |
| 12  | Butory-I Kurgan 12, Burial 2    | In the robbed burial.                                    | An iron axe with a wedge-shaped cutting part, a short rectangular butt and an oval eye, highlighted by a cylindrical thickening. The top of the eye is overlapped by an iron tongue, fixing the handle. The length of the axe is 14.2 cm, the width of the blade is 5.5 cm, the diameter of the hole is 2 cm, the size of the butt is 2.5 × 1.4 cm. | ?           | <a href="#">Sinika et al. (2013, p. 73, Figure 48: 4).</a><br><a href="#">The 3rd quarter of the 4th century BC—Polin (2014, p. 512).</a> |    |
| 13  | Vladimirovka Kurgan 3, Burial 1 | Near the left hand.                                      | The iron axe is slightly curved, with a long wedge-shaped chopping part and a rectangular butt. The 67 cm long wooden handle is fixed. The axe is 16.5 cm long, the butt is 5 cm long, the cross-section dimensions are 3 × 3, the length of the cutting part is 10.1 cm, the width of the blade is 4.2 cm.   | Male        | <a href="#">Polin and Kubyshev (1997, p. 28, Figure 21: 3).</a><br><a href="#">The 1st quarter of the 4th century BC.</a>                 |   |
| 14  | Zelenyy Gai Kurgan 5, Burial 5  | Near the right foot, stuck in the bottom of the chamber. | Iron axe with a long expanding cutting part and a short butt square in cross-section, separated by a cylindrical eye. The hole is sub-rectangular. Length of the axe 16.5 cm; width of the blade 3.5 cm.  | Male, 18–20 | <a href="#">Kovaleva et al. (2003, p. 45, Figure 16: 4).</a><br><a href="#">The 2nd quarter of the 4th century BC.</a>                    |  |

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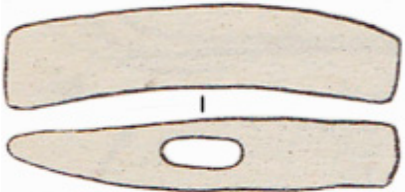


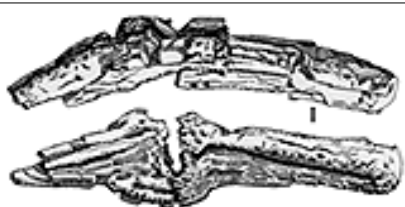
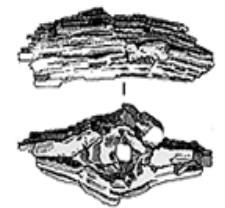
| No. | Name of Kurgan/Burial              | Find Spot within Burial Site  | Description  | Sex  | Source/Date <sup>23</sup>   | Appearance of the Axes  |
|-----|------------------------------------|---|--|------|---|---|
| 15  | Golovkovka Kurgan 27, Burial 1     | In the robbed burial.   | Iron axe, curved along the length, with a rectangular butt. A fragment of the wooden axe handle, wedged with a bronze arrowhead, was preserved in the oval hole. The length of the axe is 14 cm, the width of the butt is 3.5 cm, the width of the blade is 5 cm.                  | Male | <a href="#">Polin et al. (1994, pp. 15–17, Figure 24: 18).</a><br>The 1st half of the 5th century BC.                 |    |
| 16  | Novonikolayevka Kurgan 1, Burial 7 | On the right knee.  | An iron curved axe with a rounded eye with a small hole. The length of the preserved part is 14 cm; the diameter of the hole is 1.5 cm.  | Male | <a href="#">Evdokimov et al. (1984, p. 60).</a><br>The 4th century BC.  |    |
| 17  | Skel'ki Kurgan 13                  | Beneath the animal bones from the farewell food, together with the dart and the dart-butt from its shaft. | Iron curved along the length of the axe with a rounded in plan highlighted cylindrical eye. The ends are broken off. Preserved length 27 cm.   | Male | <a href="#">Popandopulo (2011, p. 36, Figure 13: 3).</a><br>The end of 5th to the beginning of the of 4th century BC. |    |
| 18  | Lyubimovka Kurgan 6, Burial 1      | At the right knee.  | An iron axe, slightly curved in length, highlighted by a cylindrical eye round in plan in the center. One end is pointed; the other end has a small square butt. The length of the axe is 17 cm, the greatest width in the middle is about 4 cm, the diameter of the hole is 2 cm. | Male | <a href="#">Leskov et al. (2023).</a><br>The 2nd quarter of the 4th century BC.                                       |   |
| 19  | Lyubimovka Kurgan 28, Burial 1     | Near the right shin.  | Iron axe, arched along the length. The middle part with a circular in plan allocated cylindrical eye and the striking part and butt departing from it are preserved. The preserved length is 7.5 cm; the diameter of the hole is 1.2 cm.   | Male | <a href="#">Leskov et al. (2023).</a><br>The end of 5th to the beginning of the 4th century BC.                       |  |



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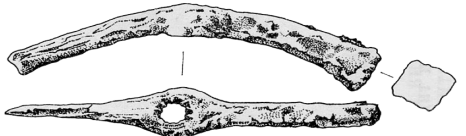



| No. | Name of Kurgan/Burial              | Find Spot within Burial Site   | Description  | Sex  | Source/Date <sup>23</sup>  | Appearance of the Axes  |
|-----|------------------------------------|--|--|------|--|---|
| 20  | Mamai-Gora Kurgan 108, Burial 3    | Across-wise the right arm above the wrist.                               | Iron axe, slightly curved in length, with a round in plan allocated cylindrical aperture with a square hole. A wooden wedge is preserved inside. The wooden hilt has been faded. Length 21 cm, width 2.7 cm, thickness 1 cm. The dimensions of the hole are 1.5 × 1.5 cm.  | Male | <a href="#">Andruh (2001, pp. 165, 167, Figure 69: 1).</a><br>The 2nd quarter of the 4th century BC.   |    |
| 21  | Krasnyy Podol-I Kurgan 2, Burial 1 | At the entrance to the chamber on a shield, along with spears and darts. | Iron axe, curved along the length, with an equal-sized striking part and a square in cross-section butt with an extended end, with a circular in plan highlighted cylindrical eye in the center. The length is 20 cm, the striking part is 8 cm, the width of the blade is 2 cm. Butt length 8.6 cm, its cross-section 2.0 × 2.2 cm, hole diameter 1.5 cm. | Male | <a href="#">Polin (1984, p. 112, Figure 13: 3).</a><br>Around 380 BC— <a href="#">Polin (2014, p. 252).</a>  |    |
| 22  | Shirokoe-II Kurgan 62, Burial 1    | Near the right arm, above the elbow.                                     | Iron axe, arcuate curved in length, with a rounded in plan eye in the central part. One end of the axe is sharp; the other is blunt. There is an iron wedge in the eye for fixing the wooden handle. Length 16 cm, width 1.5 cm, diameter of the hole 1.5 cm.  | Male | <a href="#">Chernenko and Byniatyan (1977, p. 81, Table XXI).</a><br>The 2nd quarter of the 4th century BC.  |    |
| 23  | Shevchenko-III Kurgan 8, Burial 5  | Near the left arm.   | Iron axe/klevets, arcuately curved along the length with a eye in the central part. The hole is rectangular. Length 19 cm, cross-section 2.2 × 2.3 cm, eye size 2.1 × 1 cm.  | Male | <a href="#">Bunyatyan (1977, p. 105, Table XXVII).</a><br>The 2nd quarter of the 4th century BC.<br>Image: M. Daragan.   |   |
| 24  | Brileva Kurgan 9, Burial 3         | Near the right leg.  | Iron axe/klevets with a rounded in the plan marked out eye in the center. The long beard is sharpened; the long, thin rectangular butt is evenly trimmed in cross-section. Length 23 cm; hole diameter 1.5 cm.   | Male | <a href="#">Evdokimov et al. (1985, pp. 16–17, Figure 11: 5).</a><br>The 2nd quarter of the 4th century BC;<br><a href="#">Daragan (2020, pp. 226–27).</a><br>Image: M. Daragan. |  |

Table 1. Cont.






| No. | Name of Kurgan/Burial                   | Find Spot within Burial Site                             | Description  | Sex    | Source/Date <sup>23</sup>   | Appearance of the Axes  |
|-----|---|--|--|--------|---|---|
| 25  | Mar'evka Kurgan 16, Burial 1            | In the robbed burial.                                    | An iron axe, slightly curved along its length, with the spur shifted to the butt. The combat part is narrow, extending to the blade; the butt, oval in cross-section, extends to the end. In the eyelet is inserted iron casing to fix the wooden handle. The length of the axe is 20 cm, the fighting part is 11 cm, the butt is 6.5 cm, the width of the blade is 2.8 cm.  | Male ? | <a href="#">Cherednichenko (1976, p. 88)</a> .<br>The 2nd quarter of the 4th century BC.<br>Image: M. Daragan.                                    |    |
| 26  | Dnepropрудnyi Kurgan 6, Burial 2        | Near the right arm.                                      | Iron axe with a narrow widening of the cutting part, a long bar-shaped butt with a blunt end, with an eye in the central part. An iron sleeve was inserted into the eye, in which a wooden hilt was fixed. There is an iron nail in the upper part of the eye, which was used to fasten the axe to the sleeve. The length is 19.5 cm, the cutting part is 9 cm, the butt is 7.5 cm, the width of the blade is 4 cm. The sleeve is broken off, diameter 2 cm. | Male   | <a href="#">Kuznetsova et al. (2020, pp. 27–28, Figure 9a)</a> .<br>The 1st quarter of the 4th century BC— <a href="#">Polin (2014, p. 363)</a> . |    |
| 27  | Gruppa Ostroy Mogily Kurgan 2, Burial 1 | In the robbed burial.                                    | Iron hammer with a rounded in plan highlighted cylindrical eye with a rectangular hole. Both ends blunt, rectangular in cross-section. Length 18.5 cm, section 1.7 cm, hole 2 × 0.7 cm.  | Male ? | <a href="#">Olgovskyi and Polin (1977, p. 35)</a> .<br>The 4th century BC.  |   |
| 28  | Nikolaevka, Burial 43                   | Below the right elbow, stuck in the bottom of the grave. | The iron axe, according to A.I. Melyukova's description, is double-bladed.   | Male   | <a href="#">Melyukova (1975, pp. 91, 135, 177, Figure 56: 1)</a> .<br>Middle to 3rd quarter of the 4th century BC.                                |  |
| 29  | Novaya Mayachka Kurgan 18, Burial 2     | Near the right leg.                                      | Iron double-bladed axe with a eye in the center. Length 22 cm, thickness 4 cm.   | Male   | <a href="#">Evdokimov et al. (1988, pp. 29–30, Table 26: 3)</a> .<br>The 2nd quarter of the 4th century BC.<br>Image: M. Daragan.                 |  |

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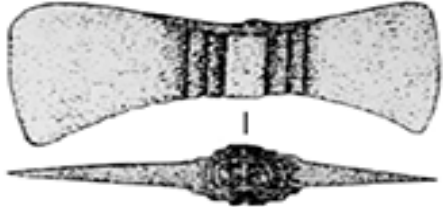
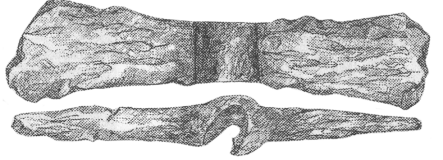
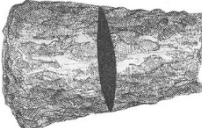
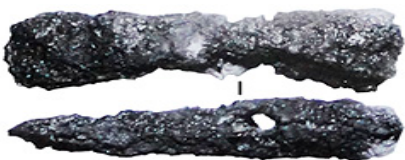
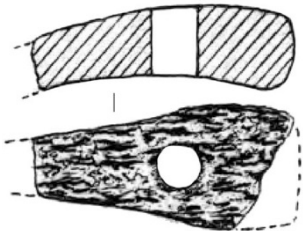
| No. | Name of Kurgan/Burial        | Find Spot within Burial Site                            | Description  | Sex         | Source/Date <sup>23</sup>  | Appearance of the Axes  |
|-----|------------------------------|---|--|-------------|--|---|
| 30  | Ryleyevka Kurgan 2, Burial 2 | On the right near the elbow joint under the spear-butt. | A bronze axe-labrys with a thickened central part with an eye and an oval hole in it, which is marked by consecutively protruding vertical ledges. The preserved 27 cm long wooden handle of the axe had a bronze conical blunt butt cap at the end. | Male        | <a href="#">Koltuhov (2012, p. 73, Figure 60: 2).</a><br>The 2nd–3rd quarter of the 5th century BC.            |    |
| 31  | Kugurluy Kurgan 11, Burial 1 | In the robbed burial.                                   | Iron axe with a eye in the middle, double-bladed. Length 14, 5 cm, width of the striking blade 3.5 cm, diameter of the hole 2 cm.  | Male ?      | <a href="#">Gudkova and Sunichuk (1984, p. 39, Figure 82: 2, 3).</a><br>The 2nd quarter of the 4th century BC. |    |
| 32  | Kugurluy Kurgan 15, Burial 2 | In the robbed burial.                                   | Fragment of an iron axe with a wedge-shaped cutting part. Preserved length 10.5 cm. Blade width 3.3 cm.  | Male ?      | <a href="#">Gudkova and Sunichuk (1984, p. 44, Figure 94: 1).</a><br>The 2nd quarter of the 4th century BC.    |    |
| 33  | Kamenka-I Kurgan 6, Burial 2 | On crossed legs.  | Iron axe with a wedge-shaped cutting part and expanding rectangular in cross-section of the butt. Remains of the wooden handle are preserved in the eye. Length 17 cm, width of the blade 4 cm, butt 4.5 cm. The diameter of the hole is 2 cm.       | Male + Male | <a href="#">Mukhopad and Androsoy (1986, pp. 15, 17, Figure 4).</a><br>The 2nd quarter of the 4th century BC.  |   |
| 34  | Plavni Kurgan 32, Burial 1   | In the robbed burial.                                   | Iron axe wedge-shaped, evenly converging to the tip. Arc-like curved along the length, with a massive broad butt and an elongated cutting part, with a chipped blade. The length of the preserved part is 10 cm; the diameter of the hole is 1.5 cm. | Male        | <a href="#">Sunichuk and Fokeyev (1984, p. 114, Figure 4: 16).</a><br>Middle of the 4th century BC.            |  |

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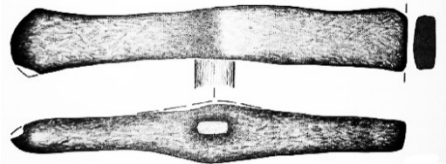

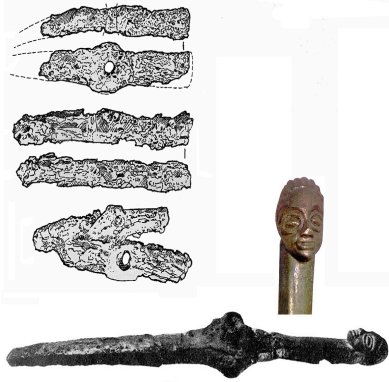
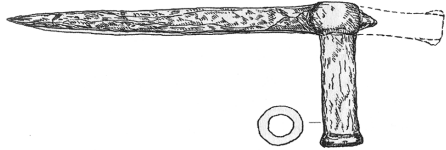
| No.   | Name of Kurgan/Burial                    | Find Spot within Burial Site   | Description  | Sex  | Source/Date <sup>23</sup>   | Appearance of the Axes  |
|-------|--|--|--|------|---|---|
| 35    | Glinoye Gruppa Vodovo Kurgan 7, Burial 1 | On the right side of the pelvis.   | An iron axe with a long, narrow chopping part and butt, rectangular in cross-section. The moon-shaped blade is slightly widened. The eye is oval in outline; the hole, rectangular. The length of the axe is 21 cm, the width of the blade is 3.5 cm, the cross-section of the butt is $2.8 \times 1.4$ cm, the size of the hole is $1.6 \times 0.8$ cm.   | Male | <a href="#">Sinika et al. (2019, pp. 366, 369, Figure 3: 21).</a><br>The 1st quarter of the 4th century BC.   |    |
| 36    | Pervaya Zavadskaya Mogila, Burial 1      | In the robbed burial.  | The iron klevets is slightly curved along its length. The long side is sharpened; the butt has an extended end. Rounded in plan, a highlighted cylindrical eye in the center. The handle is wedged with an 8 cm long iron wedge. The length of the knuckle is 26 cm. The thickness of the eye is 4 cm. The size of the hole is $2 \times 2.5$ cm.  | Male | <a href="#">Mozolevskiy (1980, p. 104, Figure 43: 5).</a><br>Middle to the 3rd quarter of the 5th century BC— <a href="#">Polin (2014, p. 197).</a>                                 |    |
| 37–41 | Berdianskiy Kurgan, Southern Tomb        | Hanging on the catacomb wall.  | Four iron klevetses and one bimetallic one. The last has a four-sided striker and a bronze cylindrical nozzle on the butt with an end in the form of a human head. The remaining klevetses are of the same type: slightly curved in length, with a circular hole in the circular cylindrical eye, rectangular in cross-section butt with a length of 5–7 cm and a long, also rectangular in cross-section, striker. The total length of two of the jaws was recorded: 12.5 and 16 cm. The others have broken ends. | A-   | <a href="#">Murzin and Fialko (1998, p. 107).</a><br><a href="#">Murzin et al. (2017, pp. 36, 104, nos. 83–84, Figure 25);</a><br>380–370 BC— <a href="#">Polin (2014, p. 268).</a> |   |
| 42    | Gaimanova Mogila, Northern Tomb no. 1    | At the end of the dromos of entrance pit no. 1 under the south side wall on the floor near the entrance to the catacomb. | Iron klevets with a long cylindrical sleeve with a sleeve base, a long, straight striker, and a chipped butt. Sleeve height 9.9 cm, diameter 2.2 cm, striker length 16.2 cm.   | Male | <a href="#">Bidzilya and Polin (2012, pp. 88, 306–7, Figure 431).</a><br>The 2nd quarter of the 4th century BC.   |  |



Table 1. Cont.



| No. | Name of Kurgan/Burial                   | Find Spot within Burial Site        | Description   | Sex    | Source/Date <sup>23</sup>  | Appearance of the Axes   |
|-----|---|-------------------------------------|---|--------|--|--|
| 43  | Melitopolskiy Kurgan Myzhskaya Burial 2 | Specially laid in the entrance pit. | Iron klevets. The pick is 23 cm long, rhombic in cross-section, and the butt is broken off to 5.5 cm. The total preserved length is 31 cm. The round cylindrical eye is highlighted, sharply displaced to the butt. A conical sleeve 9 cm long and 2 cm in diameter is inserted in the eye.   | Male   | <a href="#">Terenozhkin and Mozolevskiy (1988, p. 43).</a><br>The 2nd quarter of the 4th century BC— <a href="#">Polin (2014, p. 475).</a> |   |
| 44  | Vladimirovka 4, Burial 2                | In the robbed burial.               | Pick of iron klevets. Length 14 cm; diameter in the center 2.5 cm.  | Male   | <a href="#">Cherednichenko and Boldin (1977, p. 132).</a><br>The 2nd quarter of the 4th century BC— <a href="#">Polin (2014, p. 385).</a>  | ?  |
| 45  | Talaevskii Kurgan                       | Under the pelvis.                   | Iron axe in the form of a long massive rounded in cross-section rod with a hammer-like butt on one end and a flared semicircular blade on the other. The eye is rounded in plan, 2 cm in diameter, offset to the butt. The length is 17 cm and the width of the blade is 4 cm. The wooden hilt is up to 35 cm long and is wrapped in a spiral of gold ribbon. | Male   | <a href="#">Koltuhov and Senatorov (2016, p. 102, Figure 34: 4; 38: 3).</a><br>The 1st quarter of the 4th century BC.                      |  |
| 46  | Chernozemnoye Kurgan, Burial 3          | ?                                   | Axe   | Male ? | <a href="#">Chernenko et al. (1986, pp. 175, 316, no. 309).</a><br>The 5th century BC.   | ?  |

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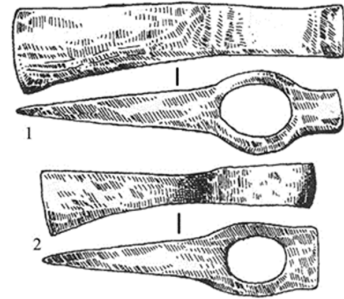


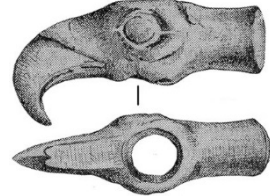
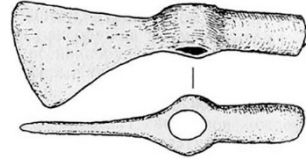


| No.   | Name of Kurgan/Burial                              | Find Spot within Burial Site | Description   | Sex  | Source/Date <sup>23</sup>   | Appearance of the Axes  |
|-------|--|------------------------------|---|------|---|---|
| 47–48 | Vysochino-V Kurgan 24, Burial 3                    | Near the right shoulder.     | <p>Iron axes:</p> <p>1. With a short rectangular butt, a long wedge-shaped cutting part, an expanding blade, a round in plan highlighted cylindrical eye, displaced to the butt.<br/>Blade length 20 cm, width 6.5 cm, cross-section of the butt <math>3.7 \times 2.8</math> cm, hole <math>3 \times 4</math> cm.</p> <p>2. With a short rectangular butt, a long wedge-shaped cutting part, a round eye offset to the butt. Length 17 cm; width of the blade 4.6 cm.</p> | Male | Bespalyy and Luk'yashko (2008, p. 90, Table LXXXIX: 2–3). Scythian times.                   |    |
| 49    | Simferopol' Kurgan 1, Burial 3                     | Near the right hand.         | Bronze votive axe with an image of a horse's head on the curved end of the "cutting" part and a hoof on the end of the short butt. On the scale of 6.4 cm long.   | ?    | Íllins'ka (1961, p. 44). Beginning of the 5th century BC.                                   |    |
| 50    | Kichkas Kurgan, Burial 25                          | In the robbed burial.        | Votive bronze axe with a short massive round in cross-section butt and the working part in the form of an eagle's head with a massive beak. Length 10 cm; diameter of the hole 1.5 cm.  | ?    | Dobrovol'sky (1929, p. 82). End of the 5th century BC—Íllins'ka (1961, p. 44).              |    |
| 51    | Lower Dnieper Kurgan Excavations by P.O. Burachkov |                              | Votive bronze axe with a short massive round in cross-section butt and the working part in the form of an eagle's head with a massive beak. On the scale of 7 cm long.  | ?    | Yatsenko (1959, p. 42, Table III:3). The end of the 5th century BC—Íllins'ka (1961, p. 44). |  |
| 52    | Berezan'   |                              | Votive bronze axe. On a scale of 8.8 cm long.   | ?    | Íllins'ka (1961, p. 51, Figure 13: 1).  |  |

Table 1. Cont.

| No. | Name of Kurgan/Burial           | Find Spot within Burial Site                      | Description  | Sex   | Source/Date <sup>23</sup>  | Appearance of the Axes  |
|-----|---------------------------------|---|--|-------|--|---|
| 53  | Eighth Piatibratniy kurgan      | Model amulet as part of a necklace.               | Gold pendant in the form of an axe with a wedge-shaped, slightly dangling cutting part, without a butt. Length 2.2 cm. | Male  | <a href="#">Shilov (1962, p. 55, Figure 3: 6).</a> Near 345 BC— <a href="#">Polin (2014, p. 434).</a>              |  |
| 54  | Privol'noye Kurgan 10, Burial 1 | The amulet model lay on the right side of a belt. | Iron hammer-shaped pendant with one sharp end and a blunt end. Dimensions 2.2 × 1 cm.                                  | Child | <a href="#">Kubyshev et al. (1975, p. 24).</a> Middle of the 4th century BC— <a href="#">Polin (2014, p. 562).</a> |  |

In none of these cases can the iron axes be considered to indicate the special social status of their owners. There is no recurring correlation among the grave offerings of specific types of axes or other potential identifying markers. As Ilinskaya noted, axes are absent in the kurgans that are clearly identifiable with rulers. The only find that might contradict this pattern—the battle axe from Kelermess—was discovered under unclear circumstances and might reflect social and cultural conditions that differ widely from those prevailing in the northern Pontic steppe of the Classical era. Small bronze votive axes of an exclusively symbolic character might, conversely, have had a more direct connection to the status or social function of their owners. Nevertheless, Ilinskaya correctly concluded that burials with such small axes do not stand out in terms of either the wealth of the grave offerings or the opulence of the ritual.

### 13. Axes in the Ritual Practices of Various Populations

The semantics of ancient burial rituals and, first of all, its worldview basis can't be properly understood without appeal to ethnography (Kosarev 2010, p. 23).

As Ryndina, Bobrova, and Ozheredov have documented, many populations of the Eurasian steppe belt believed in the magical and protective power of axes as divine objects that circulated among both mortals and the heavenly gods. This supernatural ability to freely cross the borders of the cosmos underpinned the mythological status of these objects. This became the basis for an extended set of interdependent ideas; above all, the idea that axes are located at the boundary between the real and supernatural worlds, which is manifested especially clearly in situations where souls leave or arrive into the world (Ryndina et al. 2008, pp. 167, 170). In relation to the archeological contexts discussed in this article, it becomes clear that the axes left in entrance pits to mark the sealing of the burial and the examples found under the upcast subsoil—among them the one from Burial 2, Kurgan 18, near the village of L'vovo—were employed during and before the burial ritual, respectively, and reflect the multitude of uses to which axes were put in different household and life-cycle rituals, as well as in the burial rites of many people throughout history.

Such ritualistic and utilitarian functions can be observed in a variety of ethnographic contexts. In Poland, for instance, axes served until recently as amulets to protect the house from the entry of death. When someone died in the village, people put an axe under the threshold of their houses with the blade pointing outside and drew crosses on all four walls with a garlic clove. Another custom involved carrying the coffin over an axe lying on the threshold or under it to prevent “bad things from coming into the house.” While carrying the coffin into the yard, people put an axe and a padlock at the gate. In a similar vein, when the body was conveyed across the borders of the deceased's land, it was carried over two axes lying crosswise on the road—a practice that can be described as symbolically closing the borders of the domestic space for the dead person's soul (Fischer 1921, pp. 249–50; quoted by Andryunina 2015, p. 47).

The Siberian nations also gave the axe a special role in burial rituals. An axe was put on the threshold when the deceased was carried out. After closing the lid of a coffin, the northern Khanty customarily placed an axe under the casket in the area of the head, and the Yugansk Khanty set the coffin on top of an axe when the funeral procession stopped for a rest. The Mansi of Verhniaya Lozva threw one of the axes used during the burial into the burial pit near the coffin. Upon returning from the cemetery, the eastern Khanty drove the pole of an axe into the earth or the snow on the road so that the blade pointed across the road or back to where they had come from in order to protect themselves from an unwanted visitor—the soul of the deceased. The Chulyms put an axe under the feet of the deceased, and, in the south of western Siberia, the Chelkans used the axe in shamanic rituals as a barrier between the worlds of the dead and the living. In so doing, the shaman sought to chase away the souls of his living kinsmen while he accompanied the soul of the deceased to the land of the ancestors (Ryndina et al. 2008, pp. 173–74).



## 14. Conclusions

This article discussed various archeological situations indicating the use of axes in different stages of the Scythian burial ritual. The mode of deposition of these objects depended on the ritual observances of the specific Scythian burial in question. In particular, axes were used in various rituals that were performed before the digging of the grave (as seen in the examples deposited under the upcast subsoil, for instance, in Kurgan 18, Burial 2 at L'vovo); before leaving the grave (seen in the items left in the dromos and the entrance pit, such as in Kurgan 5, Burial 1, at Mihailovka); and while sealing it (as evidenced by the axes found on top of the upcast subsoil, as in Kurgan 1, Burial 1, at Vodoslavka). In one case, an axe was found in a burial niche. While we do not know what factors, aside from the social status of the deceased, determined the exact form of the burial ritual, it seems highly likely that the ritual actions involving axes derived their meaning from a shared domain of connotations, as indeed was the case in other cultures as well. Finally, we have seen that the appearance of the types of axes used in burial rituals can be reconstructed from their depictions on figure-decorated Scythian metalwork, the coins of Kerkinitis, and the Borysthene coins of Olbia.

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## Notes

- <sup>1</sup> Of course, first of all, the Central Tomb of Tovsta Mohyla constitutes an extraordinary situation where a pectoral with a whip decorated with a golden ribbon, two quivers with arrows, an inlaid belt, and a sword in a golden sheath were placed in the dromos (usually, nothing is placed in a dromos, especially nothing of value) (Mozolevskiy 1979, pp. 52–54). The strange placement of a whole set of such precious things in Tovsta Mohyla is the most striking example of unrelated offerings being put into a burial. On par with these finds are the finds of spinning wheels in men's burials in Soboleva Mogila and in the north-eastern tomb of the Alexandropol kurgan, as well as the finds of women's headdresses in men's burials of the Eighth Piatibratnyi and the Ryzhanovskiy kurgans. This phenomenon needs to be considered separately, which we are planning to do in the near future.
- <sup>2</sup> According to Ilinskaya, Herodotus described axes in this story as one of the most common types of Scythian weapon, which does not follow from the content at all (Illins'ka 1961, p. 28). Quite the opposite: the use of a "double poleaxe" of any kind, which was also one of the holy gifts (Dovatur et al. 1982, pp. 101, 125, para. 5; 70; Kisel 2008, p. 110), was almost unknown in Scythian ritual if we look at the actual finds. Four examples from the steppe are known, one of them being a bronze votive (Table 1: nos. 28–31). Apparently, a special type of ritual poleaxe was used in the swearing ritual. This kind of unique miniature bronze double-sided labrys—11 cm long, judging by the scale—was found in a warrior burial in Barrow 2, Burial 2, near the village of Ryleevka from the 2nd to 3rd quarter of the 5th century BC. The limited use of axes and pickaxes among the Scythians of the northern Pontic area is indicated by the rarity of these types of finds in barrows and settlements. Melyukova very reasonably considered axes and pickaxes a secondary type of weapon among the Scythians of the northern Pontic area (Melyukova 1964, pp. 65–66; 1975, pp. 202–3). To judge from the frequency of the depictions of axes on Scythian kurgan stelai, this type of weapon was slightly more popular during the archaic period. However, by the 4th century BC, the situation had changed. All 17 or 18 of the known depictions of axes appear on stelai from the 7th to the 5th century BC. Such depictions are absent from stelai of the 5th to the 3rd century (Olhovskiy and Evdokimov 1994, p. 71). The find of 14 axes in the barrows near the village of Glinoe may seem to suggest the prevalence of axes among the Scythians in the 3rd and 2nd centuries BC (Tel'nov et al. 2016, p. 782). However, such a conclusion seems unwarranted; the inclusion of axes is apparently a local feature of the burial ground near the village of Glinoe, as in the late Scythian culture of Crimea only one axe from the 3rd to 1st century BC is known, and there are not many more from the 4th to the 1st century BC. In the Lower Dnepr region of the late Scythian period, no axes were found at all (Puzdrovskiy 2007, pp. 69, 134–35; Viazmitina 1986, p. 231).
- <sup>3</sup> Novotroitsky region of Herson oblast: Kubyshev et al. (1983).
- <sup>4</sup> For comparison: Melitopolskiy kurgan, 4.0–4.5 m; Berdianskiy kurgan, 8.4 m.
- <sup>5</sup> According to osteological analysis conducted by Olexandra Kozak.

6 Novotroitsky region of Herson oblast: [Kubÿshev et al. \(1985, pp. 76–78\)](#).

7 Berislavsky region of Herson oblast: [Terenozhkin et al. \(1973a\)](#).

8 In a publication of some of the materials from Burial 2, Kurgan 11, near the village L'vovo, Fialko, Homchik, and But came to the conclusion that such bronze cups were used by the Scythians to sterilize medical instruments—namely, those typical for Scythian burials, such as iron knives with bone handles—which were purportedly taken out of the boiling water with the spring forceps also found in Burial 2. An example of a surgery that required a bronze sterilizing cup, knives, and forceps is the castration of a stallion, regularly practiced by the Scythians. According to the authors, “Such [an] operation demands of a veterinarian great experience and a set of special instruments (for example, a scalpel, special tools like forceps and retainers), necessarily sterilized” ([Fialko et al. 2018, p. 118](#)). In our view, this conclusion is completely absurd, in terms of both medical history and the nomad lifestyle. First of all, even as late as the mid-19th century, the idea of it being necessary to sterilize instruments did not yet exist. In the best-case scenario, surgeries were conducted with instruments that had been scrubbed to remove blood, using almost month-old sheets, which were reused multiple times, and the bloodstains from previous operations did not bother anyone. Therefore, it is ridiculous, to put it mildly, to talk of antiseptic practices in Scythian times. Second, cattle herders throughout history have castrated horses, bulls, and sheep, and, until recently, they did so without any special medical instruments, using so-called improvised means and without sterilizing anything in boiling water in bronze vessels ([Miller 2009, p. 218](#)). The methods of castration vary and include holding the stallion's testicles with red-hot forceps and cutting them off with a knife. The forceps found in Scythian burials, which have round curved or flat blades, were completely unfit for this purpose. Long flexible plate handles do not provide the firm grip necessary for such a precise task. They had a very different purpose ([Shramko 1969, p. 58](#)).

9 Berislavskiy district of Herson oblast: [Kubÿshev et al. \(1982\)](#).

10 For a detailed description of the construction of Kurgan 18, Burial 2, and its finds, see [Kubÿshev et al. \(1982, pp. 131, 140–44, Figure 1, 9–13\)](#).

11 When analyzing Scythian axes, it is customary to combine the finds from the burials of the Ukrainian forest-steppe and North Caucasus of the 7th to the 5th century with the samples from steppe Scythia of the 5th and 4th centuries BC. However, archaic and classic Scythia reflect different periods, different regions, different Scythians, and completely different material cultures. This is why we do not consider the axes from the burials of archaic Scythian times in this article.

12 According to Bunatian, the presence of an axe is a “clear” indication that the buried person was male ([Bunyatyan 1985, pp. 67, 69](#)). Nikonorov tried to refute this conclusion on the basis of the find of axes in two women's burials in the barrows near the village of Glinoe ([Nikonorov 2015, p. 403](#)). Bunatian's conclusion was based on the materials of barrows of the 5th to 4th century BC from the Lower Dnepr region, while the burial ground near Glinoe dates to the 3rd to 2nd century, up to the beginning of the 1st century BC. This was a completely new stage in Scythian history, with new realities that we still know little about. For the 5th to 4th century, however, it is undisputable that Scythian burials with axes belonged to men.

13 Most axes from the featured selection were studied visually. A few finds could not be located.

14 Axes with massive butts are typically considered to be working rather than battle axes ([İlins'ka 1961, p. 30](#)). However, there are a relatively large number of such axes in warrior burials of Don and Kuban, which makes it obvious that the categorization of axes into battle and working ones is typologically far from certain ([Merkulov 2014; Limberis et al. 2020](#)). Notably, in these regions, cases where several axes with massive polls were placed in a burial are known; for example, in a warrior burial in the Sholohovskiy barrow, three axes with massive polls were found ([Maksimenko et al. 1984, p. 137, Figure 61: 7](#)).

15 Axes in this shape are widely represented in medieval relics, where they are considered axe-chisels ([Beylekchi 2017, Figure 4](#)).

16 Ilinskaya, in her 1961 work, referenced the work of Grakov from 1950 ([Grakov 1950, p. 11](#)), where this question was not brought up at all. Only in the book published in 1971 was the purpose of such axes defined, literally in one sentence.

17 In fact, the opposite is true—Olbian coins copied an axe from L'vovo to some extent; however, it was a votive axe, not a battle axe.

18 Front side, Demeter's head (no. 83); reverse side, eagle on a dolphin turned left (no. 80), but without a name ([Anohin 1989, p. 106, nos. 80, 83, pl. IX: 80, 83](#)).

19 Frequent finds of supposed “working” axes in warrior burials near the Don and in Kuban are discussed above. Therefore, perhaps, we should not focus too much on the exact function(s) of each specific axe, as these tools are designed to be versatile and fit for any use. It is likely that a longer handle is necessary for battle; however, this trait is unknown to us most of the time, as the wood rarely survives in the climatic conditions of the northern Pontic area. Accordingly, the descriptions of axes should be limited to their form: massive or narrow butt; long, short, or absent poll; and so on.

20 Even here, however, not everything is so simple. In the walls of steppe Scythian entrance pits and catacombs, two types of traces of earth-moving tools can be found: wide marks left by a tool like a small hoe and pointed marks from a tool like a pickaxe ([Mozolevskiy and Polin 2005, pp. 254–58](#)). The latter suggests the use of special pointed picks, similar to modern picks. However, such tools are completely unknown in Scythian material culture. We can assume that the pickaxes—which were supposedly used for battle—were also used for digging Scythian catacombs. It seems that pickaxes, likewise, cannot truly be categorized into battle and working tools.

21 Cattle shoulders, apparently used for the same thing, can be found in the burials of yamnaya (pit-grave) and catacomb cultures of the Bronze age and in the entrance pits of the catacomb culture ([Pustovalov 2016, p. 63](#)).

- 22 Axes, as well as maces, were found in some elite Sarmatian women's burials (Yatsenko 2020); for example, in Chuguno-Krepinka, a unique iron axe with a butt in the shape of a six-feather mace was found, and there was a stone mace in Sokolova Mogila. No other weapons were found in these burials. In the later period, axes become a fairly typical find in women's burials of a number of Siberian peoples. Many household chores involving an axe, such as cutting firewood, were traditionally done by women among Siberian people. Therefore, axes mostly belonged to women (Ryndina et al. 2008, p. 165).
- 23 Unless otherwise stated, the dates in the table are derived from the authors' analyses of the material.

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